THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

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WHAT IS ARCHITECTURE?

CONCURRENT with the general development and progress of the human race are the demands made upon the building profession to keep pace with and to supply its ever-changing wants. As man's knowledge of science grows, and as his trade expands, his means of transport develops, and his conception of education and entertainment alters; so, in each succeeding period, do his requirements for halls, houses, bridges and monuments change. In meeting these requirements, which it is his duty thoroughly to understand, the architect, happily, is beset with difficulties. We say happily because it has been repeatedly demonstrated that all true architectural progress has followed and been the direct result of a set determination to solve, and not to evade, the problems propounded by a given set of conditions. His schemes are governed by considerations of economy, available material, situation and a multitude of other practical conditions, but they are also governed by a factor of a totally different character though of no less importance. An appreciation of the beautiful is inborn with the human race. It is a part of man's nature, and it is essential that cognisance should be taken of this fact and expression given to it in the work of his hand. The power to collate all these factors—the dominating one among them always being that of the practical purpose a building, for instance, is to serve—and to produce a successful result combining these essentials is the work of the skilled practitioner and the work itself is architecture.

Anything more obtuse than the identification of architecture with applied ornament or with the clothing of structures in Classic or Mediæval forms can scarcely be conceived. Architecture is the very essence of the structure. It is the man—not his clothing. The late Sir Thomas Jackson has well expressed this in his book on Architecture recently published:* "It is clear that the first definition which makes Architecture nothing but building improved by ornament will not do, for ornament is not essential. Architecture does not consist in beautifying building but, on the contrary, in building beautifully, which is quite another thing."

One point, standing out clear and definite throughout the whole course of architectural history, is that it was the difficulties which confronted the architects of the past that led to the achievement of the best results. They may have had to build in a climate differing widely from their own or in an unusual and awkward situation; or they were faced with a scarcity of the materials or accessories they were accustomed to employ, or even with the scarcity of skilled labourers. These obstacles had to be overcome and the problems they presented solved; they incited the initiative of the architect—and he was usually equal to his task. This was so with the builders of new Rome. They found themselves under entirely new conditions and they fortunately decided to employ new methods of building suitable to these conditions. As a result of their enterprise a great number of their structures, religious, civil, and domestic, remain to the present day, after thirteen hundred years, the admiration of the civilised world. So it was with the Romanesque and Gothic architects of Western Europe. The methods adopted in Greece and Rome were inapplicable to the material and resources at their command They were faced with new conditions, and the necessity of adopting other and new methods. After some years of tentative effort it became clear that their initial difficulties were for the common weal, that the new methods of building showed promise of almost unlimited development; and, having acquired fresh zeal by following the course of channels newly opened up, they achieved those results of which we are so proud to-day.

It is clear from a close study of their work that all these builders possessed a considerable acquaintance with the buildings of other countries, both contemporary with their own and anterior to them, and that they took full advantage of the experience acquired from the failures and successes of those who went before them. But they set themselves to develop to the fullest extent the resources at their disposal and in their designs to meet the particular demands of the day in which they lived. Though the study of fundamental principles from time to time is a matter of necessity, any such insistence on particular forms as was made by the extremists of the Classic and Gothic renaissance schools can only lead to stagnation, often far from the minds of the masters themselves. To quote from the book above referred to, "Vitruvius himself was not a Vitruvian in the sense of the sixteenth century. He gives an account of a basilica he built at Fano, which violates all the principles attributed to him by his worshippers. Viollet-le-Duc wittily remarks that the design would never have been passed by the *École des Beaux Arts*, and the author would have been sent down to the lowest class to learn architecture from Vignola and Palladio."

It is often supposed that the mediæval builders remorselessly swept away the work of their predecessors to make room for their own designs, but a closer study would serve to show that this was far from being the case, and that the earlier work was only destroyed when it failed to serve later and urgent needs, and when it stood in the way of progress. When, however, the need arose it was swept away, happily, or many of the most beautiful structures in the world would never have been built. Each age produces its own requirements in building construction, and, since the mind of the age is largely concentrated on those requirements, it has hitherto produced architects gifted with the particular talents necessary to meet them. That is the duty of the architects of each succeeding age and it is the duty the profession owes to the community of which they are a part.

The advance of science, the perfection of medical and sanitary knowledge, the abnormal increase of traffic, the modern requirements of trade, and the demand for the simplification of domestic arrangements are in the forefront of the interesting problems confronting the architect of the present day. His best efforts are achieved when he makes no attempt to circumvent his conditions but realises that it is his duty to be equal to them and to do his utmost to meet the requirements of the time in which he lives, without prejudice to the past and with due regard to the probabilities of the future. This is the spirit governing all the great masterpieces of the past and this, we believe, is the spirit which will impart the greatest value to our works of the present day.

* "Architecture," by Sir Thomas Graham Jackson. (Macmillan: London, 1925.)

NOTES.

The Foundations of Belief

THOSE of our readers who believe that the right development of the art of architecture must be by an orderly succession of precedent and tradition will read with pleasure Sir Reginald Blomfield's article in the *Quarterly Review* on "Architecture New and Old." Sir Reginald founds his article on a consideration of some recent books on architecture, and traverses their conclusions from end to end. We are all aware of the inconclusive results obtained by written words, and we have no doubt the authors of the books referred to will have something to say in reply to Sir Reginald. One can see much to admire in parts of the writing in the books referred to, and we should all sympathise with the aspirations for progress which incite many amongst us to question the foundations of our old beliefs. The aspirations and the questioning are not to be ignored or despised. But it is not an easy matter to realise something higher and better than the world has ever shown by flinging away, as Sir Reginald contends, the ties which hold us to the world of tradition and precedent. However, we may suggest that Sir Reginald's defence of the foundations on which our art has been reared are of less moment than the fact that he is at present rescuing the southern end of Regent-street from the reproach which is rightly levelled against so much modern architecture. Looking towards Piccadilly-circus the lower end of Regent-street bids fair to take high rank in our street architecture. The author of this would be the first to acknowledge that the inspiration of this is from Norman Shaw, whose Piccadilly Hotel raised so great a protest when it was built.

Vitality in Modern Art.

WE should be sorry indeed to discourage sincere and able efforts to infuse fresh vitality into modern art, and we can almost believe that the things we have seen from Art Nouveau down to the wild eccentricities of quite recent days may have their uses. But we do most earnestly hope that our students of to-day will not be beguiled from the real values of fine building by setting up false gods of eccentric and sensational forms. How often has it been pointed out that without good outline and mass, well-proportioned solids and voids, nice distinction of emphasis, refined and expressive detail, a sensible fitting of a building to its purpose, and a proper use of good materials, we cannot have good art! We wish we could find more of these things in the work of students. We do find in our best modern buildings something of these qualities, which are nearly always bound together by the golden chains of precedent and tradition.

R.I.B.A. Innovations.

AN innovation in Institute procedure was introduced at last Monday's meeting when, we believe, for the first time in history, the criticism of the works submitted for the Prizes and Studentships was read on the same evening as the awards were announced, the President's Address to students being postponed to a later meeting. Hitherto, of course, these important events have occurred in the reverse order. In our view the innovation is one to be commended. The criticism of designs being made with the announcement of the awards must, we think, be much more effective, from every point of view, than it is ever likely to be after the lapse of a fortnight, by which time interest has somewhat subsided. The President's address, on the other hand, with its "wise saws and modern instances," comes very appropriately at the later moment. We cannot but feel, therefore, that the transposition of these two events is an excellent innovation. Another departure which we imagine will be much appreciated by the students is the announcement of the awards at the beginning of the meeting instead of at the end.

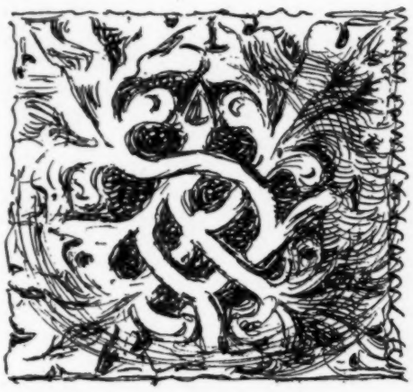
Statutory Registration.

A MOVEMENT now on foot in Australia for the registration of building designers is in strong contrast with the process of obtaining statutory registration in this country. In the State of Victoria reinforced concrete designers are in danger (?) of having compulsory registration thrust upon them. A reinforced concrete building recently collapsed in the State, and the Ministry appointed a committee to consider the whole question of the responsibility for accidents to buildings in course of erection. After full consideration and investigation, the committee has just reported that the only real solution of the problem is the compulsory registration not only of all practising designers in reinforced concrete, but of all contractors and supervisors. No designer, contractor or supervisor would be allowed to follow his occupation unless he were registered, and registration would only be possible after examination by a board of experts to be set up for the purpose.

Registration and the Public.

THE object of this registration scheme is solely to protect the public from the operations of the unqualified engineer. In Australia recently there have been several instances of the collapse of buildings in course of erection, and

Cap in Vestibule of St. Mark's, Venice. From a Sketch by MR. T. MACLAREN.
(Former Gold Medallist and Travelling Student of the Royal Academy, and Pugin Student of the R.I.B.A.)



An Old Boss.

several cases have also been recorded in the Canadian and American papers. So far as danger from the collapse of a building is concerned, the need is not nearly so great in this country as in some others; but it is significant that the need for the registration of those whose work might be a serious danger to the public, with a view to ensuring that only qualified persons shall be allowed to practise, has come from the governments in both Victoria and Singapore within the past few months.

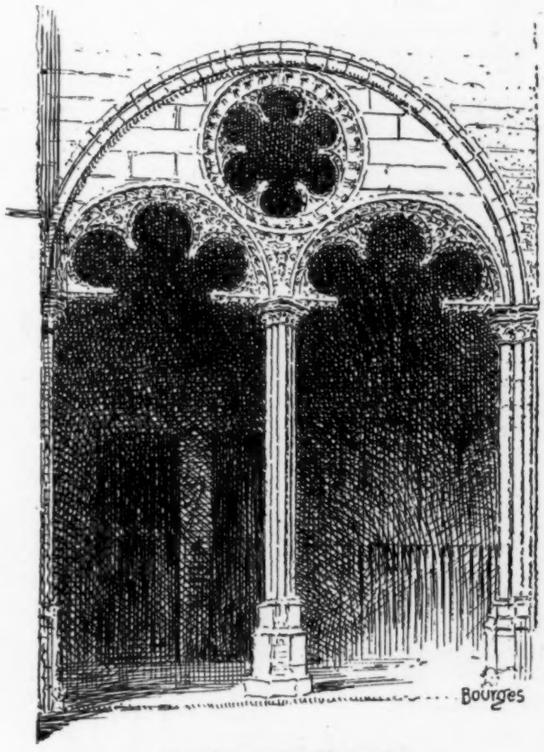
Engineers and Waterloo Bridge. AT a time when differences between engineers are an important factor in the fate of Waterloo Bridge, we were refreshed to read a paragraph in a letter from one of our friends in the United States. Our correspondent—an engineer who has been responsible for the erection of some of the largest bridges in America—says: "I have seen all the reports on Waterloo Bridge, and I am staggered that there can be any doubt as to whether it can be repaired. Wouldn't I like a chance to tackle the job!"

Alabaster Carvings. IT is a common experience with frequenters of old churches in this country to come across many quaint and interesting examples of sculpture in alabaster, but it is probably not very generally recognised that there was a considerable export trade in alabaster carvings done in this country in the fifteenth century and later. A very acceptable little pamphlet, entitled "A Picture Book of English Alabaster Carvings," has just been issued by the Victoria and Albert Museum, and in it we find illustrations of the only altar piece in alabaster with its original framing now in this country. There are delightful examples of sculpture with traceried canopies over.

The Sargent Exhibition. THE great interest which is being taken in the Sargent Exhibition at the Royal Academy, is shown by the daily attendances, and there is much to justify this interest. But in a sense this collected exhibition marks the expression and the end of an epoch. For it shows us not only the example but the passing of representation. Representation, the actual, projected with great mastery of technique, but not always instructed by emotion, gives to the material representation the highest efficiency. But in so far as held by these limits, the art of Sargent marks the end of a period now seen to be developing on the metamorphosis of all this, through added vision. This is not to lessen the appreciation of the mastery and completeness within its own limits of this artist's work, which lay in representation rather than interpretation, and is an outward record developed on the material side rather than on the imaginative co-ordination of the material through intuition.

Arts and Crafts. WE are disappointed with the new Arts and Crafts Exhibition. It is very like all that have gone before in its insistence on costly and precious detail and an almost entire disregard of an aim towards simplicity and economy. That we find much beautiful craftsmanship is undoubtedly true, but if we are to interest the world generally we shall certainly not do it by emulating the glories of the tomb of King Tutankhamen.

Ferry Traffic. THE rise and fall of the tide is a difficulty in ferry traffic which many of us have experienced. An ingenious design to meet this has been brought out by Mr. R. H. Sharpe (Messrs. Leitch & Sharpe, Glasgow). There is no doubt that most vehicular ferries are hopelessly out of date, and therefore where cost admits Mr. Sharpe's invention should have a wide application. The wharf is constructed with an inclined surface which enables the bow or stern of the ferry boat to be moored so that its deck level coincides with that of the wharf according to the level of the tide. The double curved form given to the face of the wharf is approximately two arcs such as would be described by the landward end of the ferry boat rotating about the seaward end while moored to the pective outer ends of the jetties. The resposition of the jetties relative to the wharf enables the seaward end of the ferry boat to be securely moored while the ferryboat is normal to the wharf at whatever position the state of the tide requires. When in operation the ferry boat, which is double-bowed, is steered towards the part of the wharf whose level corresponds with that of the ferry boat's deck. On reaching the wharf the ferry boat is moored by two bow ropes attached to the wharf, and one stern rope attached to the outer end of the jetty nearest the bow or wharf end of the boat. The stern rope keeps the ferry boat always normal to the adjacent arc of the wharf, thus enabling road vehicles to have a straightforward movement both when entering and leaving the ferry boat. The bow of the boat can be adjusted to whatever part of the wharf is suitable, having regard to state of tide, by the two bow mooring ropes. Both ends of the ferryboat are fitted with hinged gangways enabling vehicles to enter by one end of the ferry boat and leave by the other without changing direction. The advantages of such a landing wharf are low initial and maintenance costs, simplicity, speed and availability at all stages of the tide.



The Cathedral, Bourges.

GENERAL NEWS

Professional Announcement.

Mr. Hugh Macintosh, F.R.I.B.A., of 1, Imperial Buildings, East Croydon, has taken additional offices at 8, Prince's-street, Westminster, S.W.1. Telephone: Victoria 2835.

Change of Address.

Mr. E. B. Musman, B.A., A.R.I.B.A., has removed his office to 8, Prince's-street, Westminster, S.W.1.

Gift to Ealing Library.

Mr. W. A. Pite, F.R.I.B.A., has presented a marble bust of Byron to Ealing Library.

The Eros Statue.

The Shaftesbury memorial fountain is to be re-erected in Piccadilly-circus.

Proposed West End Theatre.

A new club, containing a theatre to seat 350, is to be built in Great Newport-street, W.C.

Proposed Boothferry Bridge.

Work is soon to be started on the construction of a new Boothferry bridge, at Howden, to be erected at a cost of £100,000.

Wembley Exhibition Site.

Wembley District Council is opposing the erection of factories on the site of the British Empire Exhibition.

Hackney Electrical Development.

Hackney Borough Council proposes to purchase a site at a cost of £86,000, upon which to erect a new sub-station.

Reading's Proposed Theatre.

Plans for a new theatre to cost £50,000 and to seat nearly 3,000, have been designed by Messrs. Sprague & Barton, of 2, Clement's-inn, W.C. 2.

Durham Castle.

The Bishop of Durham is appealing for a further £15,000 for the restoration of the Castle. The fabric is in danger through the instability of the foundations, which rest on shale.

More Ancient Monuments.

Barden Bridge, Skipton, and Ferrybridge Bridge, Pontefract, both in the West Riding of Yorkshire, have been scheduled as ancient monuments.

London Lecture Series.

A lantern lecture will be given each Thursday evening, at 6 p.m., in the Lecture Theatre, at the Victoria and Albert Museum, South Kensington, until March 25, on furniture, textiles, &c. Admission is free.

Proposed Catford Town Hall.

Lewisham Borough Council has decided to seek Parliamentary power to develop the site of the old fire station at Rushey Green, Catford. It is proposed to erect a public hall, shops, offices, &c., at a cost of £120,000.

Proposed Infirmary for Stoke.

The Stoke and Wolstanton Board of Guardians proposes to build a new infirmary and nurses' hostel, to provide accommodation for 750 beds. The plans of the first section of 250 beds have been designed by the Board's architect, Mr. A. R. P. Piercy, Lic.R.I.B.A.

League's New Palace.

A committee of nine architects is assembled at Geneva to draw up final plans for an international competition for the League Palace, which will be built shortly on a site situated at Lake Geneva, below the present quarters. England is represented by Sir John Burnet.

Church Fire at Bedminster.

The Church of St. Michael's and All Angels, Bedminster, Bristol, has been completely gutted by fire. The memorial window at the east end, put in a year ago at a cost of £620, has been entirely destroyed. The edifice is covered by insurance to the extent of £10,600, but the damage is estimated at £12,000.

Archæological Discoveries at Kish.

Professor Langdon, who is conducting the archæological excavations at Kish, has made important discoveries, including pictographic tablets which are older than anything discovered in Ur of the Chaldees, and a large number of painted geometric pots used by the earliest Sumerians.

Proposed Super Cinema, Victoria.

Messrs. Knight, Frank & Rutley, who have been concerned in the negotiations for the sale of the site, announce that one of the largest cinemas in London will shortly be erected, facing Victoria Station, on a site of nearly half-an-acre, which has just been acquired for that purpose.

Excavations at Sakkara.

The Department of Antiquities, which is investigating the area surrounding the Step Pyramid, has uncovered a very remarkable limestone colonnade about 85 yds. long; there are 48 columns 16 ft. high, with their shafts carved to represent a bundle of reeds. It is stated that the colonnade is the work of Imhotep, the first known architect.

Richmond Bridge.

Richmond Bridge has been damaged by a 200-ton barge, which hit the two centre abutments, causing a subsidence in the roadway above; nearly 30 tons of stone will be required for repairs. This bridge, built in 1760, is inadequate for modern traffic, and will probably be replaced by a wider bridge in the near future; this will depend whether the new bridge on the Chertsey arterial road diverts sufficient traffic.

Building Plans Approved during December.

Returns from local authorities in 139 of the principal urban areas in Great Britain (except the London County Council area), with a total population of 15,188,000, show that in December, 1925, plans were passed for buildings of an estimated cost of £4,962,600, as compared with £4,783,600 in November, 1925, and £4,370,000 in December, 1924.

Horticultural Society's New Hall.

It is hoped to start work shortly on the new hall for the Royal Horticultural Society, to be erected close to the existing premises in Vincent-square. It will contain 20,000 sq. ft. of accommodation, and an extra space of 2,000 ft. has been provided by means of a raised dais at one end. The architects are Messrs. J. M. Easton, A.R.I.B.A., and Howard Robertson, F.R.I.B.A.

Westminster Cathedral Extensions.

Designs and estimates have been received for St. Peter's Hall and St. Joseph's Hall, to be erected on the enclosed land adjoining Westminster Cathedral when it is cleared of the *debris* which came from the foundations of the Cathedral. An open-air altar and pulpit will also be erected.

Obituary.

We regret to announce the death, at his residence in Hampstead, of Mr. G. H. Swinstead, R.I., who has exhibited regularly at the Royal Academy since 1882.

The death has occurred, at his residence in Dublin, of Mr. Alfred Grey, aged eighty-two, a member of the Royal Hibernian Academy.

We regret to state the death of Mr. G. M. Ramsay, sculptor, of 28, Bonnygate, Cupar.

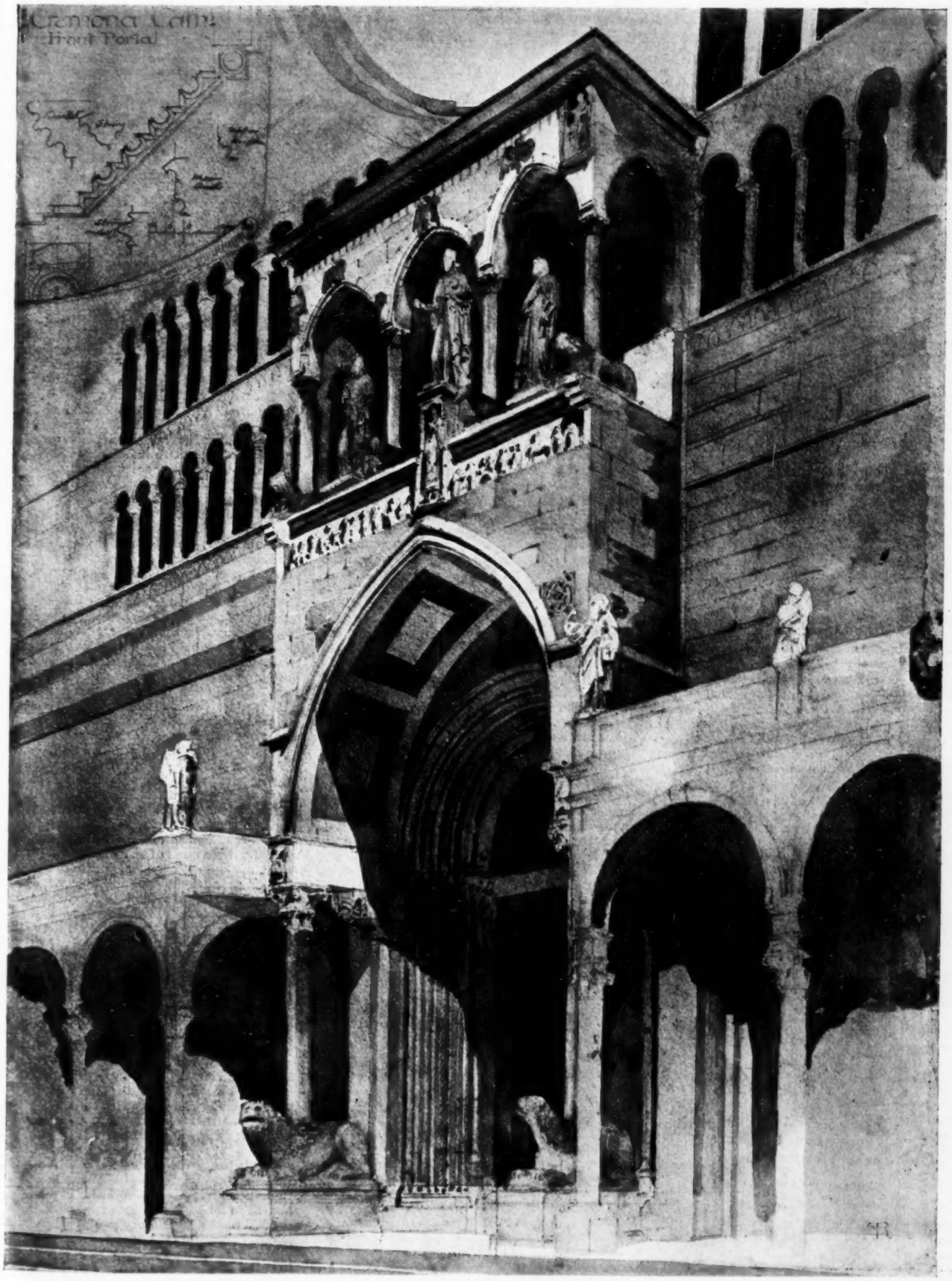
The death occurred recently, at Newcastle, of Mr. Chas. Edward Oliver, F.S.I., aged 70, architect and surveyor.

Competition for Cafe, Ramsey, Isle of Man.

The Ramsey Town Commissioners invite architects to submit designs for a cafe suitable for erection on the disused bandstand in the Mooragh Park. Particulars can be had on application to Mr. James Bell, Clerk, Town Hall, Ramsey.

COMPETITION NEWS

	Particulars published in "Builder."	Sending-in date.
Art Gallery and Museum, Birkenhead. Limited to competitors practising within 2½ miles of Birkenhead since January 1, 1923. Premiums: £250, £175, £100. Sir Robert Lorimer, A.R.A., assessor. £2 2s. deposit. Apply Curator, Central Public Library, Birkenhead	Oct. 16	Jan. 6
Public Memorial, Blackpool. Mr. E. Bertram Kirby, F.R.I.B.A. assessor. Apply to Mr. D. L. Harbottle, Town Clerk, Town Hall, Blackpool. Deposit £1 1s.	Dec. 11	Feb. 13
Australian War Memorial, Canberra. Open to architects of Australian birth. Apply High Commissioner, Australia House, Strand, London	Aug. 14	Mar. 31
New Offices for West Bromwich Permanent Benefit Building Society. Limited to architects within a radius of fifteen miles of Birmingham. Premiums: £100, £75, and £50. Mr. W. Alexander Harvey, F.R.I.B.A., assessor. Apply to Mr. John Garbett, Secretary, 301, High-street, West Bromwich	Jan. 15	Mar. 31
Public Hall, Topsham. Premiums £50, £40, and £30 respectively. Mr. Walter Cave, F.R.I.B.A., assessor. Last day for questions, Jan. 1, 1926. Designs to be sent in by April 1, 1926. Conditions from the Clerk to the Parish Council, Topsham, on deposit of £1 1s.	Jan. 1	April 1
Australian National War Memorial, Villers Bretonneux, France. Limited to Australians under special conditions. Apply Military Headquarters in capital city of each State, or High Commissioner's Office, Australia House, Strand, London. £2 2s. deposit required	Dec. 25	April 30
Papers on subjects connected with Heating and Ventilating. Two prizes of £10 10s. and one of £5 5s. offered by the Institution of Heating and Ventilating Engineers	Dec. 25	May 1
Royal Society of Arts Competitions for Industrial Designs. Apply Secretary, Royal Society of Arts	Jan. 1	June
Royal National Eisteddfod of Wales, Swansea, Competitions: (1) National Parliament House of Wales (Prize, £100); (2) Street Facade to a Large Stores (Prize, £25); (3) Set of Measured Drawings of Architecture (Prize, £25). Apply for programme to publishers, Messrs. Morgan & Higgs, Heathfield-street, Swansea (1s. 2d. post paid). Mr. Arthur Keen, F.R.I.B.A., Assessor	Nov. 6	July 15
Incorporated Architects in Scotland: (1) Rowand Anderson Medal and £100: City Art Gallery and Museum; (2) Rutland Prize (£50) for Study of Materials and Construction; (3) Prize (£10 to £15) for 3rd year Students in Scotland; (4) Maintenance Scholarship, £50 per annum for 3 years. Apply Secretary of the Incorporation, 15, Rutland-square, Edinburgh	Nov. 6	—
Plan for construction of Conference Hall, for League of Nations, Geneva. International Competition, Sir John Burnet being British representative on Jury of Assessors. 100,000 Swiss francs to be divided among architects submitting best plans. Programmes with R.I.B.A., 9, Conduit-street, where intending competitors should apply. Single copies from Secretary-General, League of Nations, Geneva, on payment of 20 Swiss francs.	Jan. 2, 1925	—
Secondary School for Girls, Worcester. Premiums 100 guineas and 50 guineas. Mr. Herbert T. Buckland, assessor	Dec. 11	—
Infectious diseases hospital, Blaydon, for 72 beds. (Date of application for particulars now passed)	Dec. 18	—
***Builder* (Constructional Problem) Competition for those not over 25 years of age engaged in the pursuit of architecture and building. See announcement each week.**	—	—



Cremona Cathedral: Front Portal.

From a Sketch by MR. T. MACLAREN.

I

SOME OBSERVATIONS UPON THE CONDITION OF THE BUILDING INDUSTRY

BY JOHN ANGUS.

[*** The opinions expressed in this article are not necessarily our own.—ED.]

THE paper on the condition of the building industry read at the recent meeting of the Royal Institute of British Architects, and the subsequent discussion, provide some interesting and provocative reading. The bond between architects, builders, and operatives is obvious: they represent the building industry, and it is a healthy sign that they should meet together and discuss their common interests.

Taking into consideration the different points of view, it would be expecting too much to find a complete understanding. In point of fact it is not too obvious what the "difficulties confronting the building industry" are supposed to be, as the discussion merely confirmed an existing attitude. It is evident that what would appear to the writer to be a danger point, was, to the building industry, a position to be defended, without compromise. The building trade is not generally regarded as being in a parlous state comparable with, say, the engineering and shipbuilding trades, and an outsider might be pardoned for believing that it was in a very flourishing and enviable position. On the other hand, if we are to suppose that a heavy demand for building, a shortage of skilled labour, and a high rate of wages constitute a position which is satisfactory at the moment, but precarious, the discussion did not reveal it. From the point of view of the public, what may seem lack of consideration for its interests can be discerned, with the natural result that several of the remedies or suggestions seem strangely out of touch with the fundamental principles which govern the industrial life of the country. On humanitarian grounds, democracy perpetually presents a baffling attitude. We can accept without comment, apparently, the observation that operatives believe they were entitled to a little leisure, while we are aware that a million unemployed are unable to find work! The implication is obvious.

One or other of the parties must lay some claim to be associated with the feelings of the general community, otherwise no amount of discussion is likely to be of any real value to the building industry. Buildings do not exist in order that theories upon building economics may be called into existence. Some of the suggestions submitted create the impression that it is not merely "nothing like leather," but a hidden conviction that feet exist in order that boots may be made for them. The architect by virtue of his position might be said to act as the liaison officer between the building trade and the public. He has a technical knowledge of the craft, and he is in direct contact with the demand. The technical question of whether he acts in the capacity of agent for his clients may be open to dispute, but it is certain that he is in a position to feel the pulse of the demand for building. Mr. Coppock's comment that operatives had always held the opinion that architects were opposed to them is interesting in the light of his explanation. One would imagine that the architect is as unwilling to lose a contract as the operative, but he does not assume that his client is opposed to him because the costs of building are considered to be too high.

It is clearly evident that the suggestion of opposition does not visualise any definite economic theory regulating the hoary problem of supply and demand. There is a very definite state, nevertheless, when relative values come to be reckoned with, when demand is reduced to the minimum. Every one at various times has come across numbers of people who consider they cannot afford to buy certain things, yet genuinely desire to see the worker maintaining a high wage standard. It is a fairly easily understood post-war attitude of mind, but it is an anomalous one, nevertheless. The truth is, we are actuated of necessity by economic causes and effects, regardless of sentiment or economic theories. Unfortunately, though superbly conscious of our social obligations, our command of detail does not equal our command of ideas.

From a commercial point of view, it would be natural to assume that the architect preferred to be fully occupied on building contracts at a high cost than be compelled to amend both the magnitude of his schemes and the quality of the work. The problem only becomes really troublesome when it involves the choice between little work at a high cost and no work at all. The point of view of the architect might reasonably be held to be similar to that of the operative, in so far as their interests in building work coincide. They probably differ very considerably in their economic theories, but whereas the attitude of the operative can neutralise the services of the architect, the converse does not apply. A reasonable reply, therefore, to Mr. Coppock's observation might be that his idea of the welfare of the building operative is opposed to the interests of the architect.

The real economic problem, one would imagine as it should appear to architects, builders, and operatives, might be stated thus: whether it is an economic advantage to the country to have a limited amount of work at a high price, or an unlimited amount at a low price? It might be answered in a number of different ways, and the usual answer would be to dispute the sequence of cause and effect. Alternatively, it might be proved that where a particular theory would be in the interests of the individual industry, it might be opposed to the interests of the community in general. To develop the argument a step further, it might be proved that what at first sight appears to be ideal for the individual worker, might be wholly unfavourable to workers collectively. At the moment, the ideal of the greatest good for the greatest number seems to be quite forgotten, yet the prevailing impression is that this is precisely the ideal in view.

These observations must be qualified to this extent—that the building trade is operating under abnormal conditions. There is a certain amount of building work which is a necessity, and there is a definite shortage of skilled labour. In the circumstances, the amount of building work held back or postponed may, therefore, be dismissed as a matter of no consequence, or alternatively, it may be considered to be a very serious matter. It is altogether a question of how we think, or rather how we want to think.

THE RICH AND THE PLAIN IN BUILDINGS

IN last Wednesday's lecture at the Central School of Arts, Sir Banister Fletcher, V.-P.R.I.B.A., dealt with the interesting versions of Renaissance architecture produced in the Netherlands (Belgium and Holland), where, he said, the low-lying clay produced bricks of delightful hues, which delightfully broke up the façades of the merchants' houses and guild-houses which line the waterways. The architecture of Holland was characterised, after the Reformation, by a much plainer style, the churches internally being transformed in planning to suit the new worship. By the aid of lantern slides Sir Banister described some of the characteristic buildings of the two countries, with their interesting contrasts.

Threatened Roman Villa.

The Villa Aldobrandini, which was threatened with demolition by building speculators, is to be preserved by the Government as a national monument.

CORRESPONDENCE

Clerks of Works and Clerk of the Works.

SIR,—You refer in the Editorial premier "Note" of last week's issue to the conclusive remark made by the friend of my youth, Sir John Sulman, of Sydney, abstracted from the Book of Proceedings of the recent International Education Congress, wherein he advisedly tells us that experience as clerk of the works offers the best solution for "the neglect of the most important and most neglected part of an architect's education, viz., the practical knowledge which cannot be obtained in collegiate or office work." In so far as that matters I agree. Having been engaged in that capacity in the early period of my life, I probably escaped many difficulties owing to the fact that I had some years previously worked at the joiner's bench in the shops of the contractors who carried out the public building in question, and for which I had made the design. Not a few of the artificers on the job knew me as an improver at their builders' yards. Subsequent practice induces me, however, to suggest that there is another side to this question which cannot escape attention. The late Leonard Stokes, before George E. Street, R.A., appointed him clerk of the works to the Cathedral restoration of St. Patrick's, Dublin, had for some while served his time as a pupil to another friend of mine, J. Gandy, the quantity surveyor, thus obtaining first-hand knowledge not otherwise possible.

That is one side of the outlook, and I recall the other. Another distinguished architect member of the Academy, anxious to ensure an artistic supervision of his charming design for a nobleman's mansion in an outlying West Country park, insisted on the appointment of his favourite pupil as clerk of the works. Unfortunately, largely owing to this gentleman's incapacity, serious results entailed a costly and lengthy arbitration, held in the Courts of Justice, whereby both client and architect came off very badly. The contractor escaped, being fortified by the "final certificate" having been prematurely issued. I was engaged to report and give evidence throughout the case, which mainly arose from unqualified supervision and absence of businesslike conduct on the spot by an experienced man.

Another instance in point occurred in my practice due to the disability of a clerk of works advanced in years with little knowledge of some builders' methods. A borough council let two contracts. Mr. Charles Barry was architect for one and I was architect for the other. He nominated his clerk of the works and I did the same, my man being much younger and more up to date. The building committee (too clever by half) bethought that all chance of collusion would be obviated by allocating my clerk of works to Barry and relegating his man to me. The latter was experienced and "absolutely above board," but proved unequal to the "tricks of the trade" in vogue by the builder engaged on this job, chosen by publicly advertised tendering. This dear old clerk of works was nearly worried into his grave in consequence. How a young, inexperienced assistant, freshly out of an architect's office, would have fared I need not dilate upon, or how I should have got on in the following public building case with such an amateur clerk of works. An arbitration, after no end of trouble, finally was held, and according to the contract Thomas Blashill, many years superintending architect of the L.C.C., was appointed arbitrator, sitting without counsel, so the hearing was direct, close, and understandable. Fortunately I had a capable clerk of the works, and in so far as the clients were concerned, we secured a most satisfatory award. The builder, his foreman, and his prime cost clerk were on one side of the table, and the architect and clerk of works on the other. Such an ordeal is not easily forgotten even by winners.

"But when the one great scorer
Comes to write against one's name,
He writes not that you have won or lost
But how you played the game."

MAURICE B. ADAMS.

PRIZES AND STUDENTSHIPS, 1926.

AT last Monday evening's meeting of the R.I.B.A., at 9, Conduit-street (the President, Mr. E. Guy Dawber, in the chair), the Council's Award of Prizes and Studentships was announced (see page 148). In the course of a critical review of the designs submitted for the various competitions, H. S. Goodhart-Rendel, F.R.I.B.A., observed that on the whole the year was not a particularly good one, though it showed great promise for the future. He dealt first with the designs submitted for the Soane Medallion (not awarded this year), and in the course of his observations said that the sense of *character* in architecture, like the sense of humour in life, was of great value to those who had it, and made little of by those who had it not. That it was not indispensable in the production of beautiful buildings might be seen in America, where the sense was at present little developed, and yet where many beautiful buildings were produced. That it was extremely valuable both to the architect and his public might be seen in France, where the national instinct for the appropriate gave charm and interest even to designs the least inspired and the most routineer. Though loosely spoken of as a sense, it was—need he say?—nothing of the sort, but rather an intellectual perception gained consciously and unconsciously from experience. It was what Adam and Eve could not have had when they named and classified the objects of creation; it was what the nonsense story supposed them to have had when it made Adam say, "Hullo! that looks like a pig; let's call it a pig!" (The criticism was then applied to some of the designs submitted for the Soane.)

The speaker then dealt with the Tite Prize, observing that the design bearing the pseudonym "Bonzo," to which the prize was awarded, owed its supremacy to qualities which would not appeal to the romantically minded. It was appropriate, it was reasonable, it was controlled, it was realisable, it had just that sober gravity and dignity which its purpose demanded, without any exaggerations or sentimental fantasy. To some minds, the notion of a monument to a national hero demanded for its realisation that which ignored the appropriate, which transcended the reasonable, which scorned control, which recked nothing of realisability; in short, the word "hero" sent some people in off the deep end. Perhaps in a competition such as this a certain amount of chimerical fancy would be excusable. He did not think it regrettable, however, that, with two exceptions, none of the competitors for this prize had shown even the mildest symptoms of megalomania. Rather had they tended towards pettiness, and "Bonzo" was more lonely than he should have been in his perception of the proper scale for a monument amid the specified surroundings. His esquisse suggested that this perception had come to him in the working out of his design, since his first notion looked more like a summer-house in a back garden than a commemorative hall on a cliff 40 ft. high. In this esquisse, however, the appropriate simplicity was realised, and this simplicity had been the making of the finished design. The detail of this design was good—better, he thought, than the general contour of the dome and its drum. The latter appeared to him too high for the former. "Bonzo" had plainly been thinking of the effect of his temple seen from below and had been alarmed lest in perspective the cornice of the peristyle should hide too much of the drum. He had, therefore, heightened the drum, but he had also flattened the dome. He (the speaker) thought that if his design were built as it stood, he would find that from one standpoint the dome would look right but the drum would look too high, and that from another the drum would look right but the dome would be invisible. "Bonzo's" steps up the cliff were adequate and in good proportion—the terrace, also, by appearing well-shaped, showed that he had conformed his design skilfully to its obligatory dimensions. The lay-out of the terrace, however, was weak and meaningless.

Referring to the Grissell Prize, the speaker said that this year only one design had been submitted, but had there been many more he thought it likely that this one would have been the winner. In it the programme was admirably realised, and both plans and elevations were models of their kind.

For the Alfred Bossom Travelling Studentship there were three contestants, but here again there could be no doubt of the superiority of the successful design. "Hat's" proposals had the novelty that came from doing a simple thing a great deal better than it was customarily done. "Hat's" scheme and calculations showed care, but the price of 1s. 3d. per cubic foot, which he allowed for his building was obviously, at least 6d. below the mark. Also the various maintenance and caretaking charges for which he allowed £100 per annum would probably amount to twice that sum. Nevertheless, the whole project was reasonable and well thought out, and the architectural treatment charming.

The Owen Jones Studentship, like the Grissell Prize, was only aimed at by one competitor this year, and again, as with the Grissell Prize, that competitor had done very well indeed. "Michael's" "theatre in a private house" was decorated as such a room should be; both the painted panel and the large-scale embroidery detail were admirable.

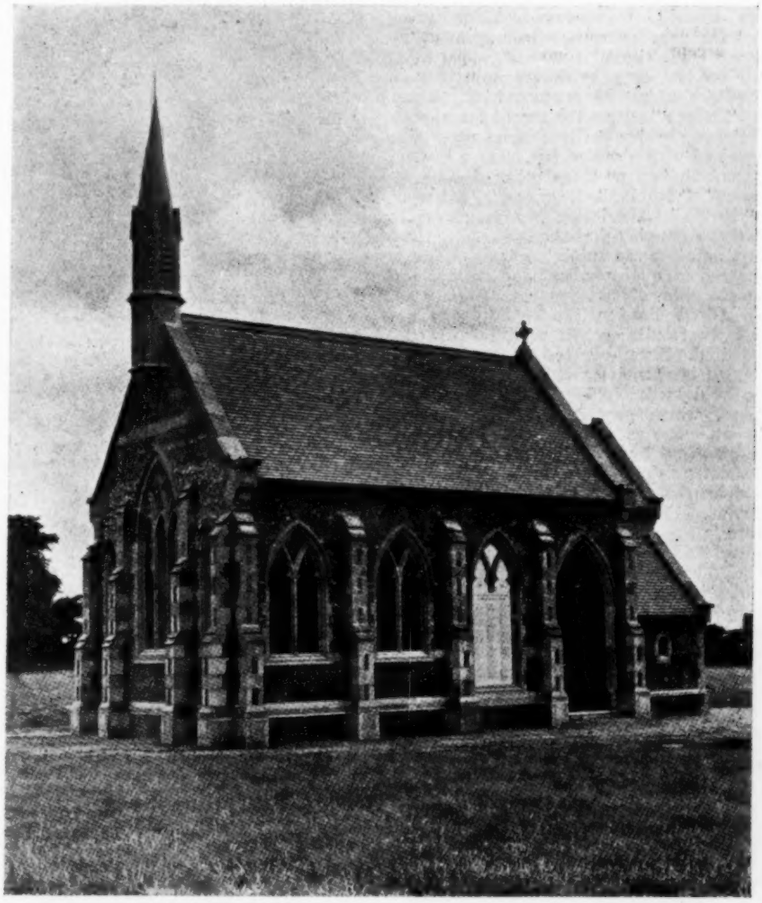
Discussion.

Professor E. A. Gardner, Vice-Chancellor of London University, proposing a vote of thanks, congratulated Mr. Goodhart-Rendel on the charming way in which he had performed a difficult duty. He had been not only witty, but kind; there was no malice in his criticism, and the students ought to be very grateful to him.

Professor Leslie Wilkinson, seconding the vote, said the spur was always useful, and he was sure the students would accept it in the spirit in which it had been applied. Criticism was a thing of which we had far too little; modern architecture would be greatly improved if criticism were applied more generally. They ought, he continued, to look upon this annual event as a commemoration day. They should think of those benefactors—the Soanes and the Tites—without whom the profession would have been poorer and great works of architecture would have been lost to the country.

The President added his thanks and congratulations to Mr. Goodhart-Rendel. Though as an Institute, he said, they felt some disappointment at the results of the competitions, they were glad to have Mr. Goodhart-Rendel's assurance that it was only a case of good material deferred for another year.

The next meeting will be held on Monday, February 1, at 8.30 p.m., when the President will deliver his Address to Students and present the Medals and Prizes.



Leiston War Memorial Chapel. MR. J. A. SHERMAN, Architect.

[This chapel has been built of concrete blocks, at a cost of £1,230. The builders were Messrs. Smyth Bros., of Leiston.]

THE R.I.B.A. PRIZES

It is certainly disappointing that the Institute Competition designs this year are not so good as usual, and that the assessors could not award the Soane prize. The many drawings exhibited for the Soane represent a large amount of work which the students will now realise has been largely misapplied. Sometimes we find that, even in large schemes, the competitors reach quite a good level of accomplishment and yet, in a fairly simple subject like a bank, we find them lacking. One is inclined to wonder whether they study with some amount of care the many illustrations which are published of executed buildings which have run the gauntlet of expert criticism and examination, and modern banks are common enough. It cannot be too much impressed on us all that at the basis of all successful design there must be a sense of use and suitability. For example, on the subject of the monument to a national hero, we feel that the form adopted in the winning design for the Tite prize, is a more definitely suitable treatment than the creation of a big classic temple. So in the design for a bank, the magnificence of the entrance must not jeopardise the good lighting and form of the banking room, and the heavy monumental walls of a Florentine palace would hardly be acceptable to the owners or tenants of a modern city building. We are sure that those who guide our students are as a rule capable and helpful, but in view of the Soane failure we seem forced to the conclusion that there is some lack of response between the directors and the students. We must all feel sympathetic to the energy and enthusiasm of our students, but we must see to it that they really grasp the lessons of common sense and use directions which we try to give them. We are inclined to think that if a portion only of the Saxon Snell prize was awarded, for which apparently only two competitors entered, that a consolation prize might have gone as some encouragement in the Soane competition.

There are just on sixty drawings on view of the Tite Prize subject, a Monument to a National Hero. "Bonzo" gains the award for a well-proportioned circular pavilion surrounded by a peristyle and with a domed top. There is some good work in two or three other designs by "Ulysses," "Kuklos," "Omega," "Puzey," and "Kokio." The latter is a very happily proportioned temple; probably it was considered inappropriate for the subject set, but there is some excellent quality about the design, and we should hear of this student again.

The Alfred Bossom Studentship has not realised the results such a good prize should have elicited. A well-planned scheme of housing in a town is shown by "Hat," the winner of the gold medal and £250, in three story buildings, which suggest a simple concrete treatment. The exterior treatment is not so pleasing as that by "Chota" or "Huck," but we understand that the financial aspect of the scheme has been carefully thought out by the winner.

There is some excellent work submitted by "Michael" for the Owen Jones Travelling Certificate and £100. The sketches done on tour of this scholarship by Miss L. M. Payne are very interesting, and include some charming pencil studies of plant life and colour notes of landscape.

The work of the Pugin student (D. H. McMorran) tour, 1925, contains a great deal of vigorous drawing of admirable quality. The drawings of Jedburgh Abbey and of Hexham are as good as anything we have seen. This student has known how to select good subjects, and he has well deserved his award.

The measured drawings are a little disappointing; the foreign ones in pencil are the most interesting.

A considerable number of drawings are exhibited which have been sent for the Soane Medallion. It is a pity that some praiseworthy effort shown has been ill directed. The drawings by "Finance" are excellent drawings *qua* drawings.

We give on page 147 Mr. Goodhart-Rendel's criticism of the Tite and the Bossom winning designs.

The Saxon Snell prize has produced some excellent drawings by the winner, "Germ."

PRIZES AND STUDENTSHIPS.

At Monday evening's meeting of the R.I.B.A. the Awards of Prizes and Studentships were announced as follows:—

The Essay Medal and £50. (not awarded).

The Measured Drawings Medal and £75 (not awarded).

The Tite Prize and £50.—Subject: "A Memorial to a National Hero." Prize awarded to Mr. A. Calvaley Cotton (School of Architecture, University of Liverpool), 50, Shrewsbury-road, Oxton, Birkenhead, Cheshire.

Exemption from submitting Testimonies of Study for the R.I.B.A. Final Examination was granted to:—Mr. Frank Chippindale (Leeds School of Art), 10, Ash-grove, Otley, Yorks.; Miss Leonora F. M. Payne (University of London, University College School of Architecture), 28, Horbury-crescent, W.11; Mr. T. Murray Ashford (Birmingham School of Art), 30, Fountain-road, Edgbaston, Birmingham.

The Soane Medallion and £150 (not awarded).

Exemption from submitting Testimonies of Study for the Final Examination has been granted to Miss Alison Sleigh, (Architectural Association School of Architecture), 16, Gordon-square, W.C.1.

The Owen Jones Travelling Studentship and £100.—Awarded to Mr. E. Dinkel, 14, Kelso-place, Kensington, W.8.

The R.I.B.A. (Alfred Bossom) Studentship, Gold Medal, and £250.—Awarded to Miss Doris Lewis, A.R.I.B.A. (Architectural Association School of Architecture), 41B, Belsize Park, Hampstead, N.W.3.

Silver Medals were awarded to:—Miss Doris Lewis, A.R.I.B.A. (Architectural Association School of Architecture), 41B, Belsize Park, Hampstead, N.W.3; Mr. E. H. Ashburner (School of Architecture, University of Liverpool), c/o. Mrs. Learner, 42, King Henry's-road, Primrose Hill, N.W.3.

The Grissell Gold Medal and £50.—Subject: "A Swimming Bath." Prize awarded to Mr. John Wm. Wood (Architectural Association School of Architecture), c/o. The Architectural Association, 34, Bedford-square, W.C.1.

The Henry Saxon Snell Prize, £60 (not awarded).—The Council have awarded a prize of £15 to Mr. Arthur E. Cameron, A.R.I.B.A. (late Architectural Association), 18, Eastwood-road, South Woodford, E.18.

The Ashpitel Prize, 1925.—Awarded to Mr. Christopher Green, B.A. Oxon., 5, Pickering-place, W.1.

The R.I.B.A. Silver Medal for Recognised Schools.—Awarded to Miss Thelma Silcock (School of Architecture, University of Liverpool), The Cross, Huyton, Lancs.

The competition drawings will be on exhibition in the R.I.B.A. Galleries, 9, Conduit-street, W.1, until February 1, between the hours of 10 a.m. and 8 p.m., Saturdays 10 a.m. to 5 p.m. (Sundays excluded).

Following are some biographical particulars of some of the successful competitors:—Mr. J. W. Wood, who wins the Grissell Gold Medal and £50, is a student of the Architectural Association Schools, where he was awarded the A.A. Diploma on completion of five years' course. He was also awarded a scholarship in the second year and gained third prize in the third year. In his fourth year he was awarded the R.I.B.A. Henry Jarvis Scholarship for the study of Construction.

Mr. Christopher Green, who wins the Ashpitel Prize, was a student of the Architectural Association Schools, where he completed a three-years' course. His previous education was at Charterhouse and Christchurch, Oxford. Mr. Green is B.A. (Diploma of Classical Archæology).

Miss Doris Lewis, A.R.I.B.A., who wins the R.I.B.A. (Alfred Bossom) Travelling Studentship, is a Diploma Student of the Architectural Association Schools, where she was awarded the Fifth Year Prize for the study of town planning. She has served articles in Melbourne, Australia, in the office of Messrs. Klingender & Alsop, and entered the A.A. Schools in 1921.

Staircase, Berkhamsted School,

MESSRS. FORSYTH & MAULE, Architects.

LEADING CONTENTS.

	PAGE
WHAT IS ARCHITECTURE	141
NOTES	142
SOME OBSERVATIONS UPON THE CONDITION OF THE BUILDING INDUSTRY	146
CORRESPONDENCE	146
THE PLANNING AND EQUIPMENT OF THE SMALL HOUSE—III	154
SPECIFICATIONS—III	155
THE ARCHITECTURE OF DENMARK AND SWEDEN	156
REINFORCED CONCRETE IN BUILDING CONSTRUCTION	157
THE SURVEYORS' INSTITUTION	159
THE ARTS AND CRAFTS EXHIBITION SOCIETY	160
THE "BUILDER" COMPETITION	160
ARCHITECTS' AND BUILDERS' INQUIRY BUREAU	161
THE BUILDING TRADE	162
SOME OBSERVATIONS ON WORKMEN'S COMPENSATION—III	162
DILAPIDATIONS AND WASTE—III	163
GREATER LONDON HOUSING CAMPAIGN	164

ILLUSTRATIONS

Design for Parish Church, Frinton-on-Sea.

The parish church of St. Mary, Frinton, until about 50 years ago, was considered to be one of the smallest in England; it was, doubtless, the Chapel of the adjoining Hall. It consisted of a small nave about 18 ft. by 25 ft. 6 in. of fourteenth-century work, of rubble walling, with a picturesque brick south porch of sixteenth century work. A stoup and two door-heads are the only remains of mediæval masonry. The chancel was added in 1879, and two fourteenth-century heraldic panels are glazed into a modern window.

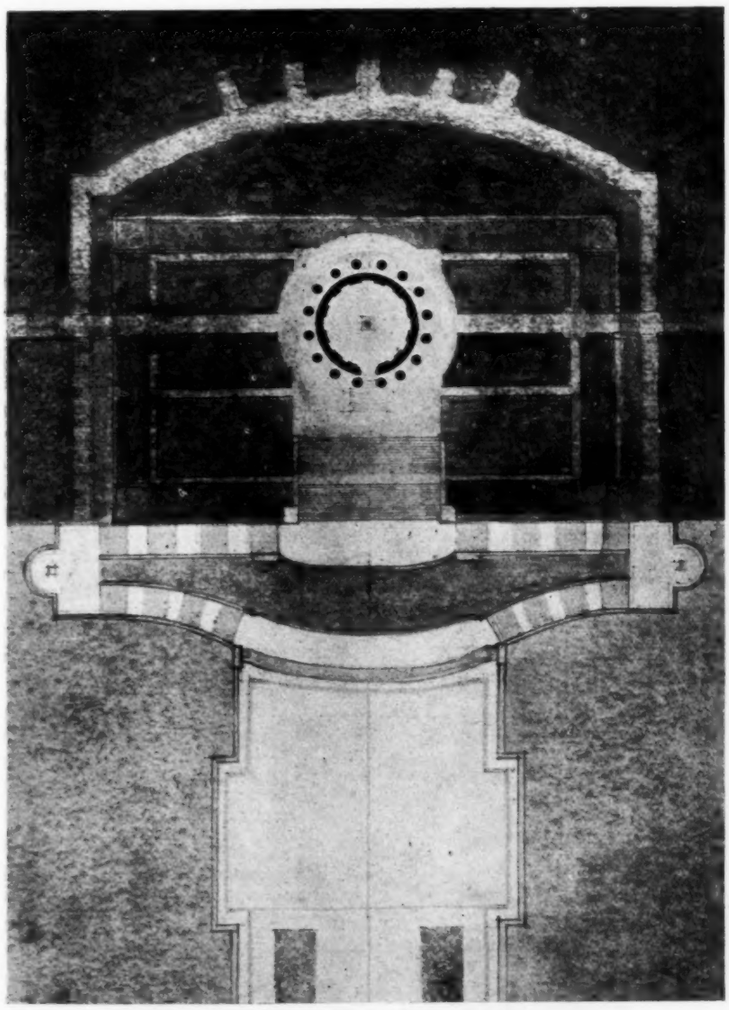
The rapid growth of the population from about 80 occasioned an extension of the nave, leaving only portions of the north and south walls of the original walls. This modern extension was removed in 1910 to make way for a large temporary nave and the conversion of the old nave into the Choir. Designs were then prepared by Professor Beresford Pite for the late Rector for a new building that should preserve the remains of the ancient church, on a site much restricted by boundaries and graves. This design, which has been exhibited in the Royal Academy, is now illustrated.

Dundee Secondary School Competition.

We publish this week the design of Messrs. Gal[illegible] & Hay, which was awarded third premium in this competition. The winning design, by Messrs. Malaren, Soutar & Salmond, was illustrated in our issue for October 2, 1925.

Lloyds Bank, Nottingham.

These new premises have been designed by Messrs. Bromley & Watkins for a site in Market-place, Nottingham. The perspective drawing, which we reproduce, has been exhibited at the Royal Academy.



The Tite Prize: "A Memorial to a National Hero,"

Lay-out of Winning Design,

BY MR. A. CALVALEY COTTON (School of Architecture, Liverpool University).

Memorial Hall and Sunday School, Blackpool.

The Memorial Hall and Sunday School for the Parish Church of Holy Trinity, South Shore, Blackpool, illustrated in this issue, have not yet been commenced, but it is hoped to be able to make a start during the spring, if the required amount is forthcoming. The estimated cost of the building is £9,000. The schools are to be built upon the site of the existing schools and an additional piece of land, which has already been purchased. The Hall is to be built as a memorial to those members of the parish who served and died in the Great War. The hall and gallery provide accommodation for 766, and the small assembly hall 300. Mr. A. C. Moore is the architect.

Architectural Sketches.

The study reproduced on page 142 and the one on page 145 are part of a collection which was exhibited by request, some time ago, for the benefit of the students in the Architectural Departments at the following institutions: Massachusetts Institute of Technology, Boston; Amherst College, Mass.; Pratt Institute, Brooklyn; Columbia University, New York; and the Pennsylvania University, Philadelphia. Mr. MacLaren is a former Gold Medallist and Travelling Student of the Royal Academy and Pugin Student of the R.I.B.A.

R.I.B.A. Competition Designs.

We illustrate this week the successful designs in the following R.I.B.A. competitions, the results of which were announced on Monday evening last, and are given fully on page 148:—Tite Prize (awarded to Mr. A. Calvaley Cotton), R.I.B.A. (Alfred Bossom) Studentship (awarded to Miss Doris Lewis).

MEETINGS

FRIDAY, *January* 22.

Surveyors' Institution.—Mr. W. E. H. Campbell on "Acquisition of Land for Public Purposes." At 17A, East-parade, Leeds. 6.30 p.m.

Glasgow Architectural Craftsmen's Society.—Mr. D. L. Crawford on "Architecture, Past and Present, in West Highlands." At the Royal Technical College. 7.45 p.m.

MONDAY, *January* 25.

Architectural Association.—Mr. A. Bertram on "How to Look at Pictures." At 34, Bedford-square, W.C.1. 7 p.m.

Royal Society of Arts.—Mr. H. P. Shapland, A.R.I.B.A., on "Decoration of Furniture." At 18, John-street, Adelphi, W.C.2. 8 p.m.

Royal Sanitary Institute.—Mr. C. Porter on "Duties of a Sanitary Inspector." At 90, Buckingham Palace-road, S.W.1. 6 p.m.

TUESDAY, *January* 26.

National Federation of Building Trades' Employers.—Annual Dinner. At Hotel Victoria, Charing Cross. 7.15 p.m.

Society for the Promotion of Roman Studies.—Professor Stuart Jones on "Claudius and the Jewish Question." At Burlington House, W.1. 4.30 p.m.

Bartlett School of Architecture, University College, London.—Dr. E. G. Richardson on "Acoustics of Buildings." At University College, Gower-street, W.C.1. 5.30 p.m.

WEDNESDAY, *January* 27.

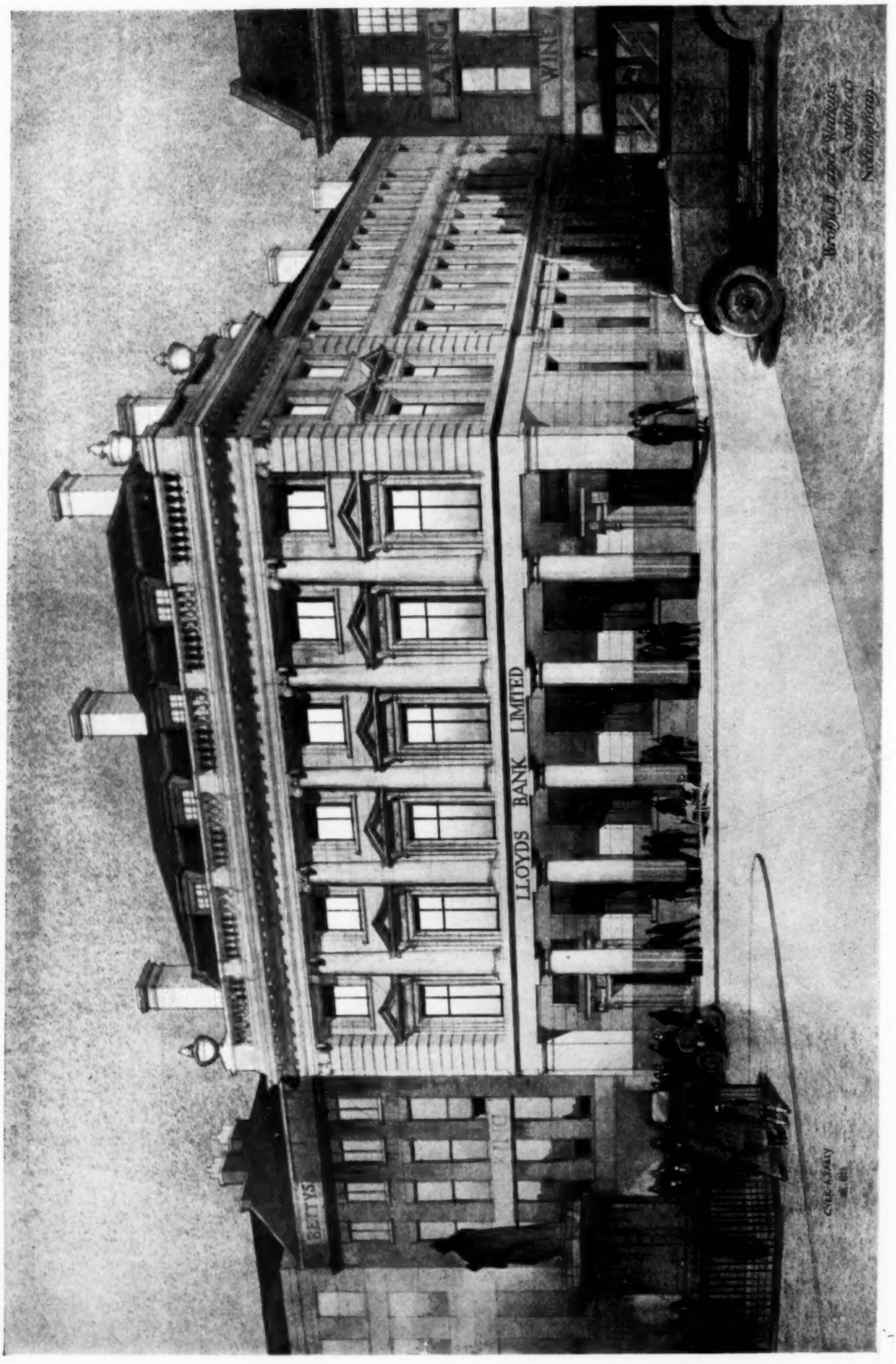
L.C.C. Central School of Arts and Crafts.—Sir Banister Fletcher, V.-P.R.I.B.A., on "Spanish Renaissance." At Southampton-row, W.C.1. 6 p.m.

Liverpool Architectural Society.—Mr. L. G. Hannaford on "A Visit to Italy—Impressions." At 13, Harrington-street.

THURSDAY, *January* 28.

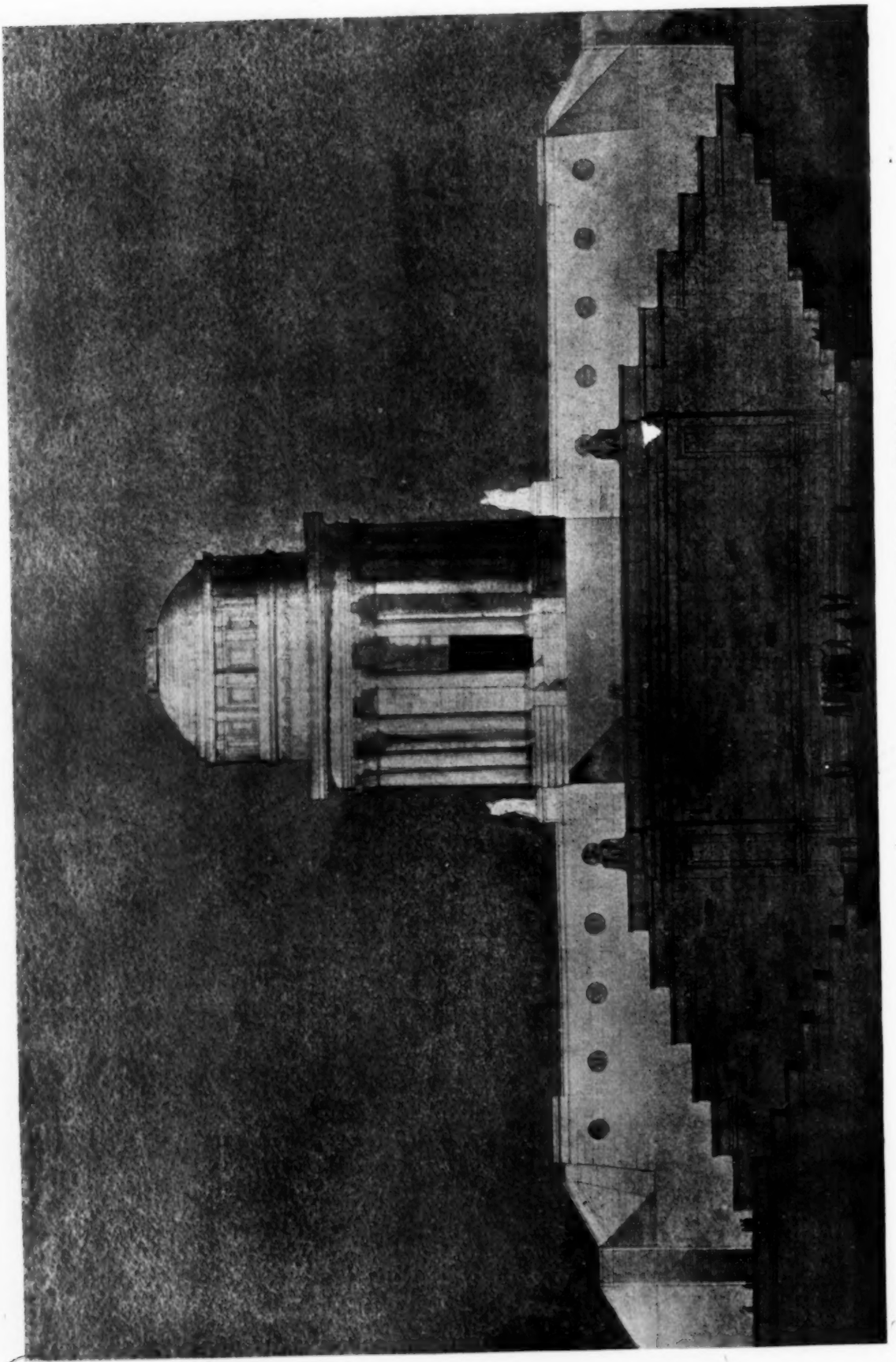
Society of Antiquaries.—Mr. H. F. Traylen on "Domestic Architecture of the Seventeenth and Eighteenth Centuries at Stamford, Lincs." At Burlington House, W.1. 8.30 p.m.

Association of Architects, Surveyors and Technical Assistants.—Annual General Meeting of the Metropolitan Branch. At Caxton Hall, Westminster, S.W.1. 7 p.m.



New Premises for Lloyds Bank, Ltd., Market-place, Nottingham.

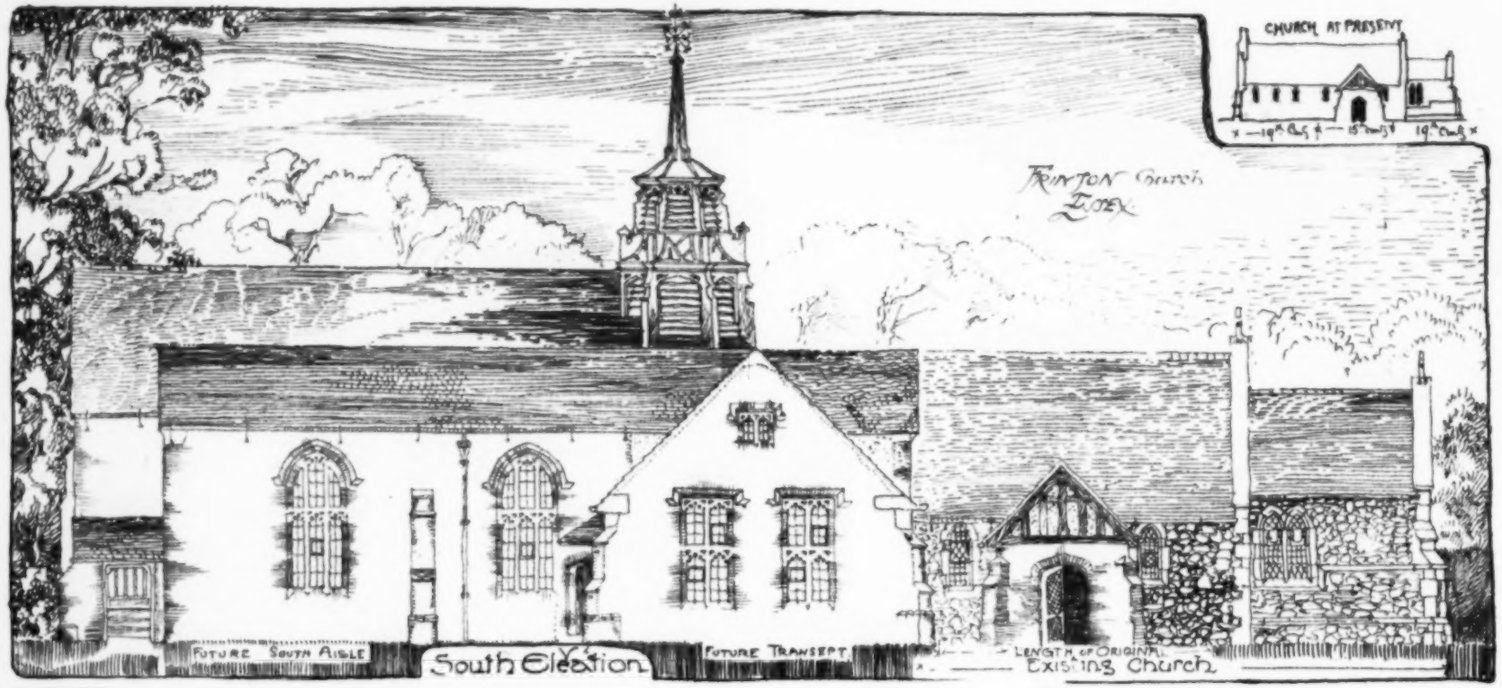
MESSRS. BROMLEY & WATKINS, Architects.

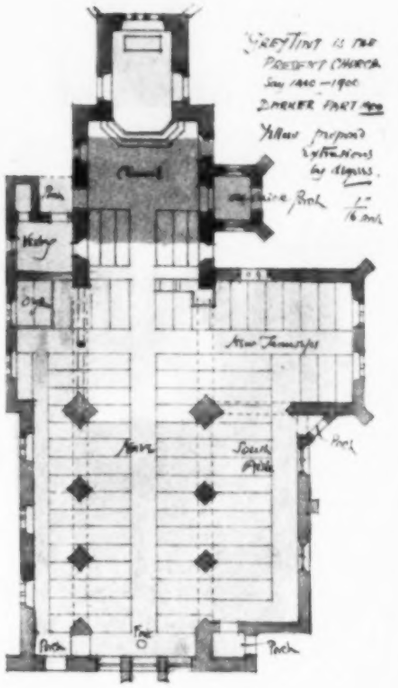


The R.I.B.A. Tite Prize. "A Memorial to a National Hero": Winning Design.

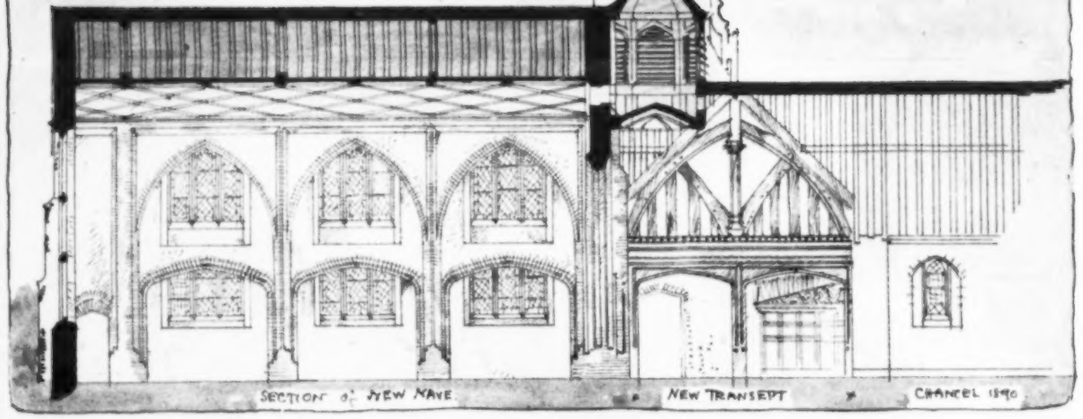
By Mr. A. Calvaley Cotton (School of Architecture, Liverpool University).

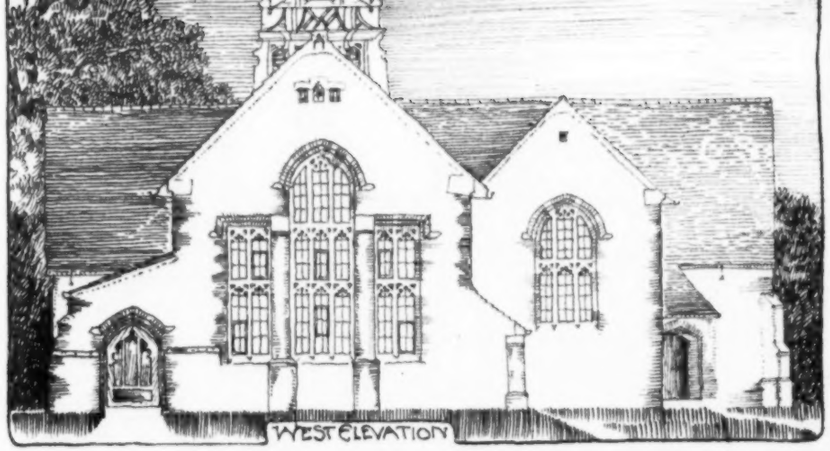
UNIV OF MICH.


CHURCH AT PRESENT
FRINTON Church
ESSEX
FUTURE SOUTH AISLE
South Elevation
FUTURE TRANSEPT
LENGTH OF ORIGINAL
Existing Church


GREY TINT IS THE PRESENT CHURCH
DARKER PART NEW
Chancel
Vestry
New Transepts
Porch

EAST ELEV.
AT PRESENT.

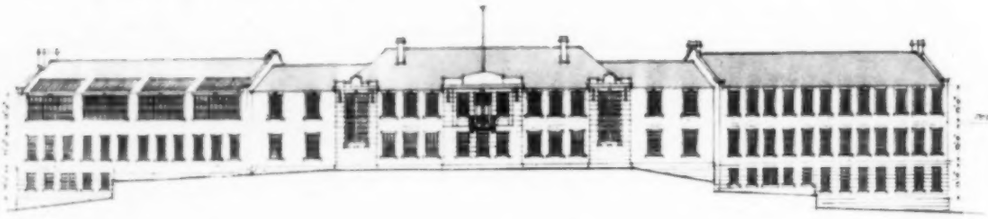




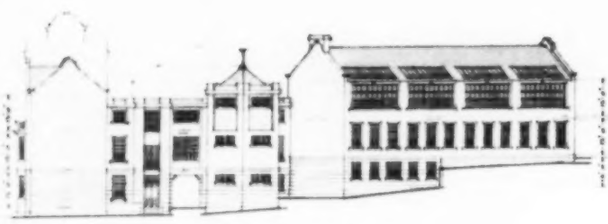
DESIGN FOR PARISH CHURCH, FRINTON-ON-SEA.
PROFESSOR BERESFORD PITE, F.R.I.B.A., ARCHITECT.

UNIV. OF WISCH.

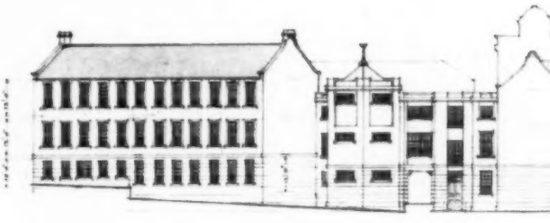
DUNDEE EDUCATION AUTHORITY
PROPOSED NEW SECONDARY SCHOOL



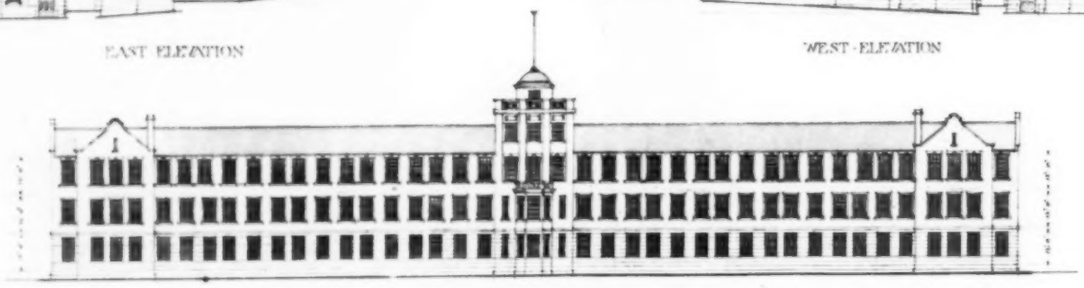
NORTH ELEVATION TO PERTH ROAD



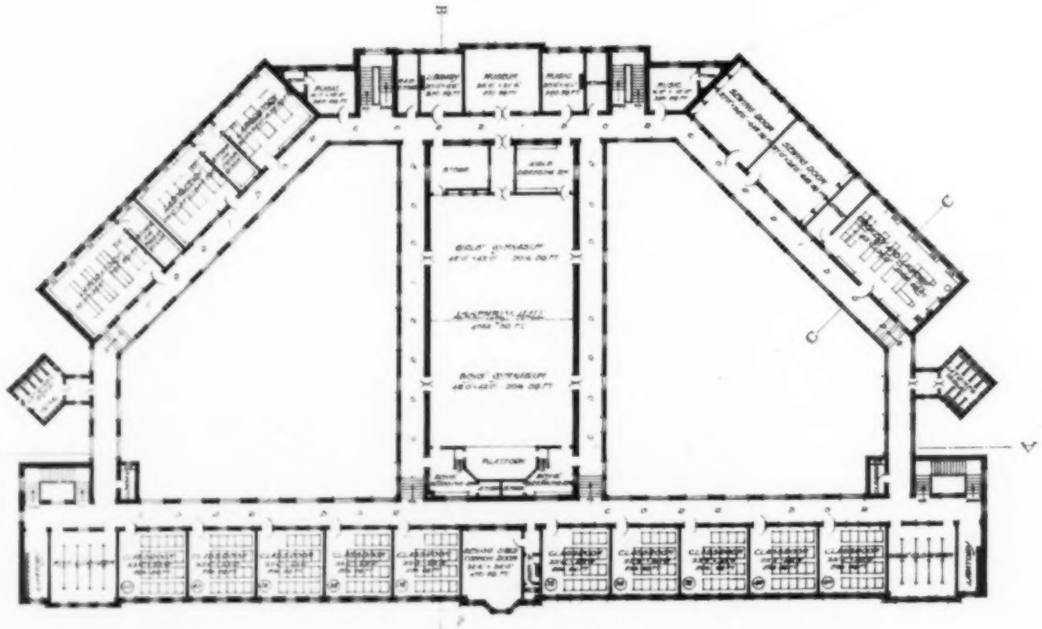
EAST ELEVATION



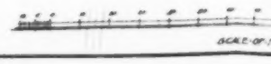
WEST ELEVATION



SOUTH ELEVATION



GROUND FLOOR PLAN



DUNDEE SECONDARY SCHOOL COMPETITI

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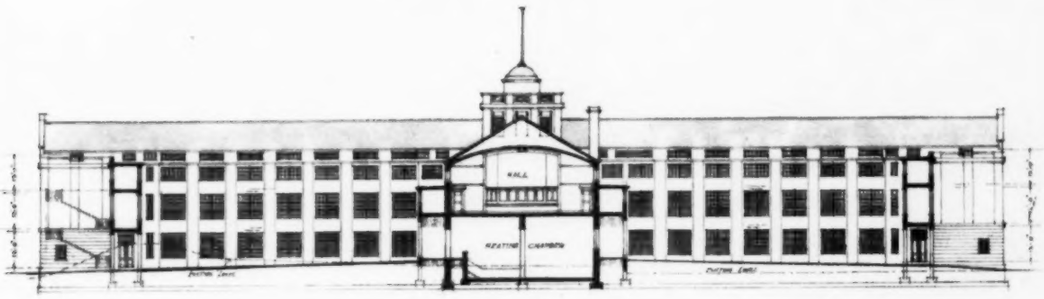
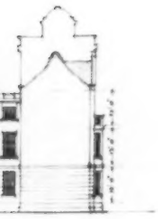
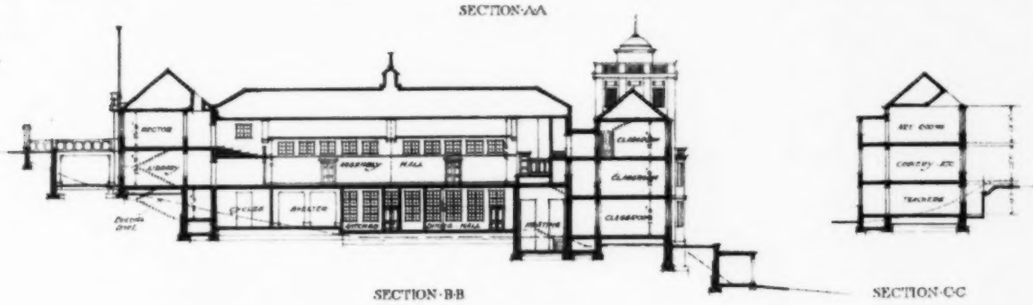


SECTION·A·A





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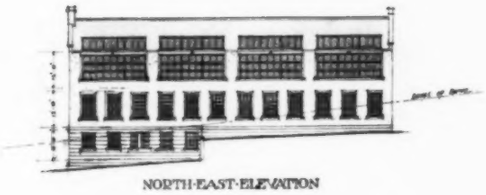
SECTION·C·C



NORTH·EAST·ELEVATION

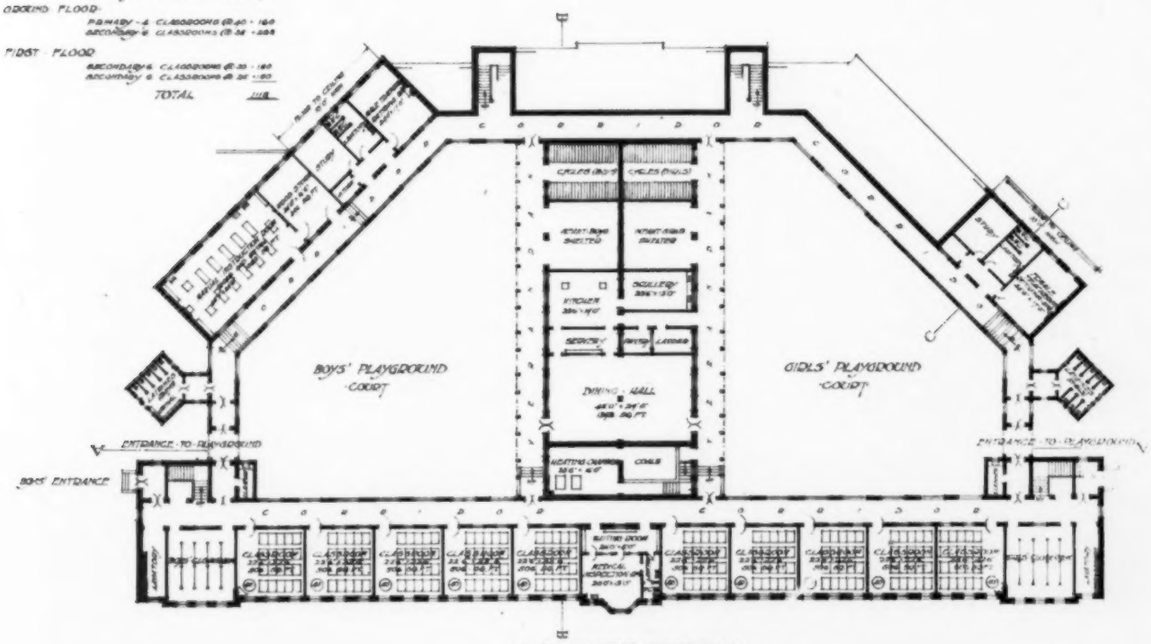
ACCOMMODATION

LOWER · GROUND · FLOOR ·
PRIMARY · 10 CLASSROOMS @ 40 · 400

GROUND FLOOR ·
PRIMARY · 4 CLASSROOMS @ 40 · 160
SECONDARY 6 CLASSROOMS @ 36 · 216

FIRST FLOOR
SECONDARY 6 CLASSROOMS @ 30 · 180
SECONDARY 6 CLASSROOMS @ 26 · 156

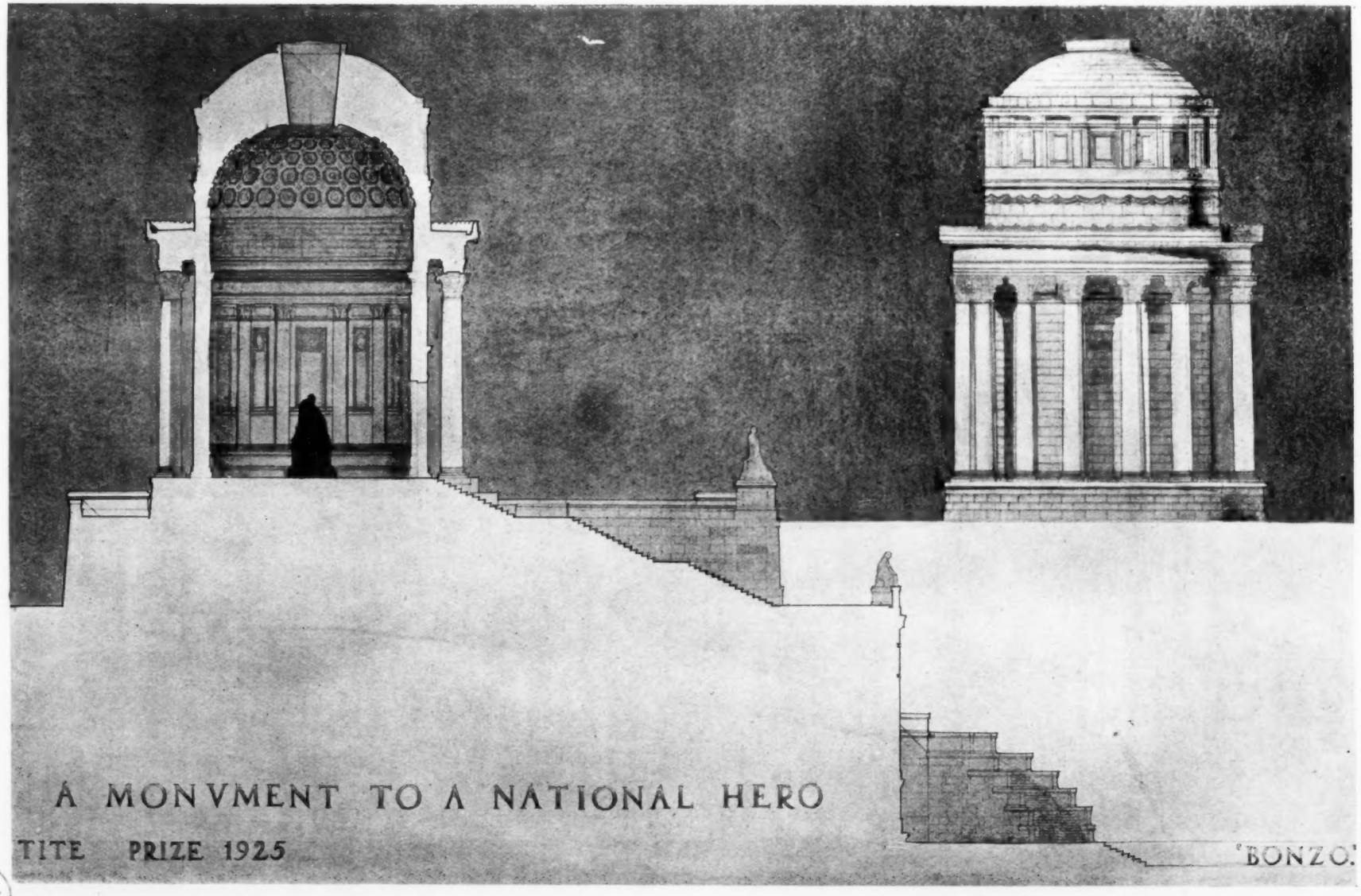
TOTAL 712



LOWER·GROUND·FLOOR·PLAN

SCALE OF FEET

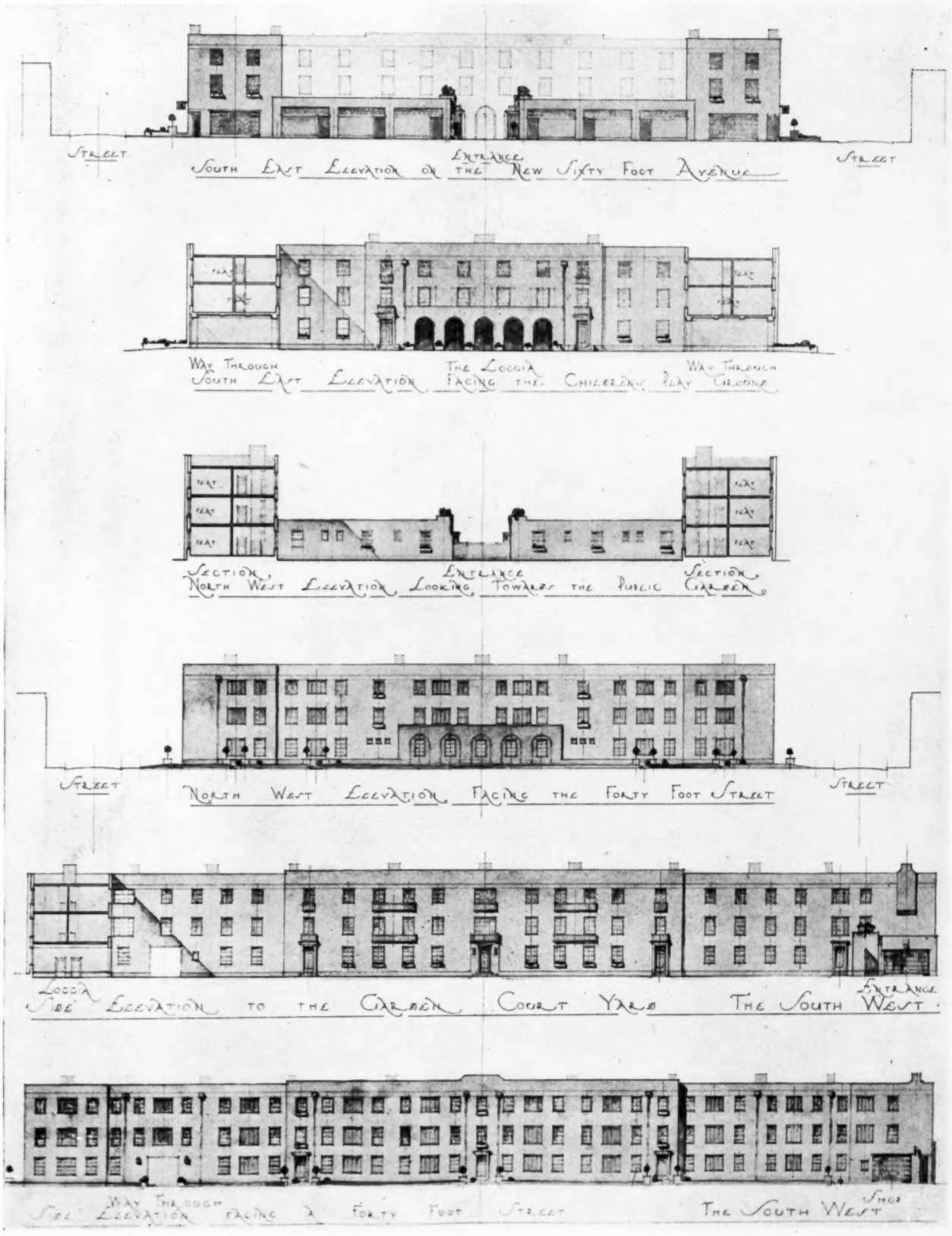
MPETITION, DESIGN PLACED THIRD.
HAY, ARCHITECTS.



UNIV. OF MICH.

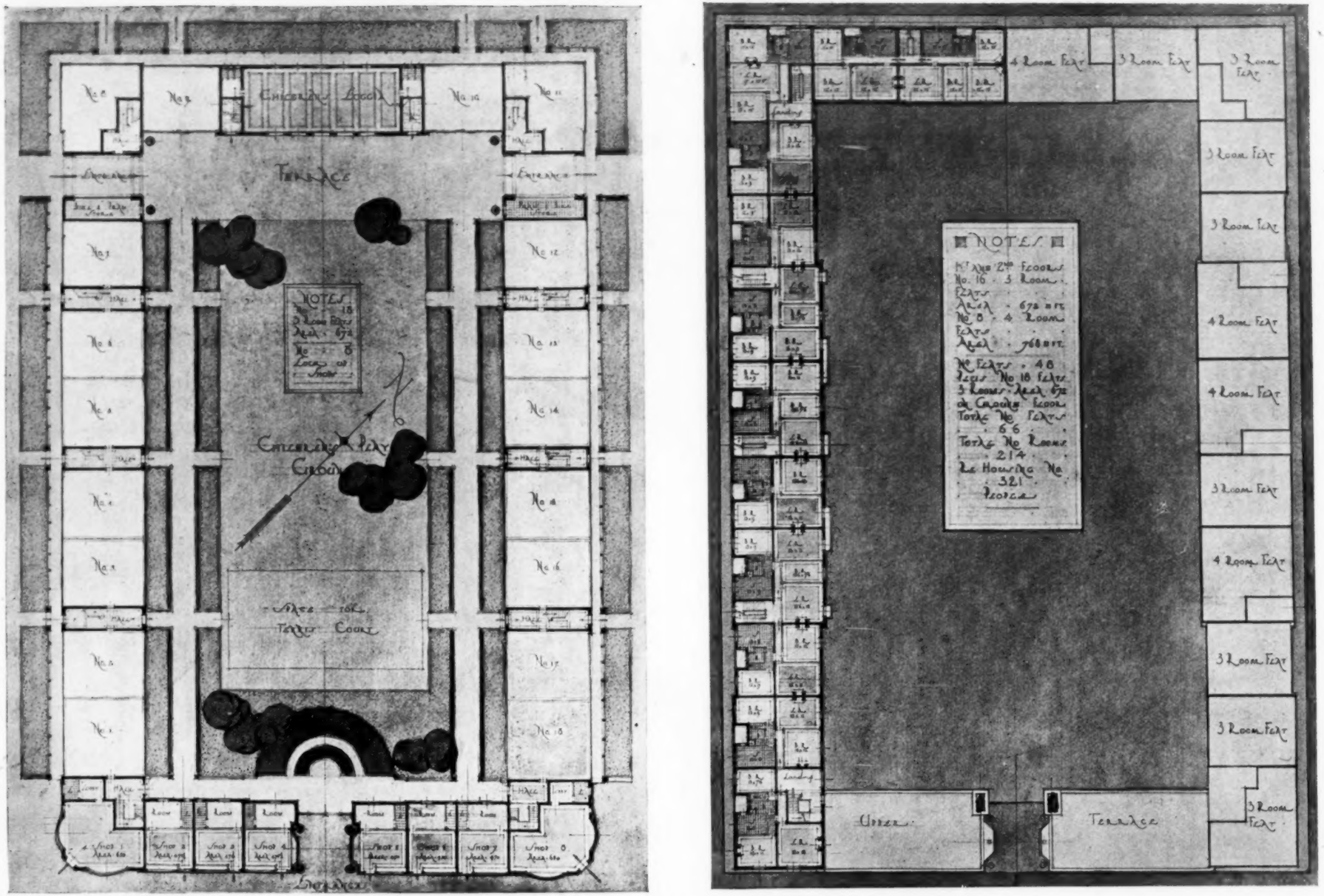
The R.I.B.A. Tite Prize. "A Memorial to a National Hero": Winning Design.

By Mr. A. Calvaley Cotton (School of Architecture, Liverpool University).



The R.I.B.A. (Alfred Bossom) Studentship: Winning Design.

BY MISS DORIS LEWIS, A.R.I.B.A. (Architectural Association School of Architecture).


Terrace
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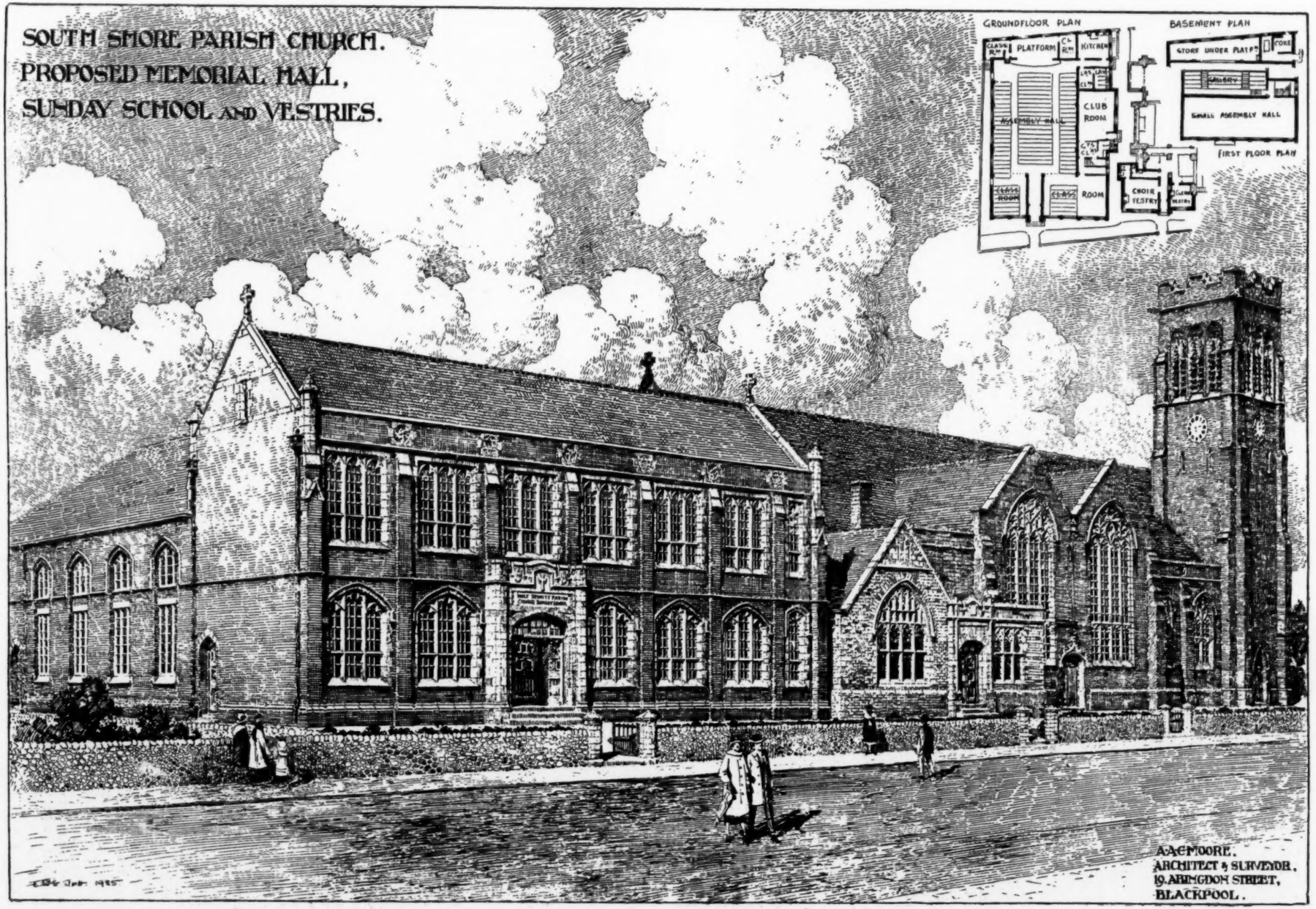


South Shore Parish Church: Proposed Memorial Hall, Sunday School and Vestries. MR. A. A. C. MOORE, Architect.

THE PLANNING AND EQUIPMENT OF THE SMALL HOUSE—III

By EDWIN GUNN, A.R.I.B.A.

Apart from special requirements, every designer will probably have his own ideas as to the normal desiderata in connection with each of the ordinary rooms of a house and as to their general relationship. This does not, of course, mean that he will have one plan-motif which he will dress up anew for each occasion; the "special requirements" alone are sufficient to guard against that; but there may quite well be some amount of similarity of idea between vastly different houses without detriment to their design or suitability, and with manifest benefit to their organism, since each repetition should show some advance to perfection. A thing done once is in the nature of things usually less complete and satisfactory than the same thing done expertly after several trials. This may seem a timid policy, but it is only necessary to mention the example of the Greek temple and the mediæval cathedral (not to come nearer our own times) to point the moral that a steady evolutionary growth rather than a restless seeking for the new or novel has been the way of progress—each designer copying his last effort with improvements, and his contemporaries and successors not disdaining a similar course.

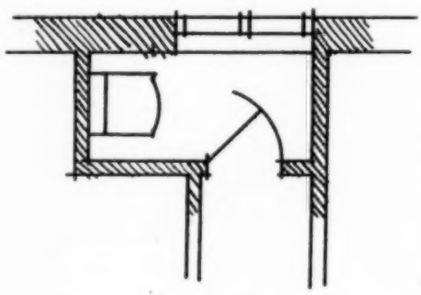
The core or nucleus of a modern small house is the living-room, by whatever name it is known. Whatever may happen elsewhere, this room will probably have an open fire—even in centrally-heated America. The position of the fireside is the *point de departure*. It should not be opposite the door, nor should it be on the same wall as the door. It is pleasant to have it screened from view (and from easy draughts) should the door be left open. If the fireplace is on an internal wall certain advantages arise. The room should be easily carpeted, should be lighted from more than one side, and should preserve some amount of wall-space for disposition of furniture. The form of room included in each of the three plans accompanying the last chapter appears to afford a satisfactory solution. The fireplace is well screened from draught and has a comfortable seclusion; a fireside window available for reading is provided; room-lighting can be arranged to suit any desirable aspect or prospect; the rectangular portion of the room will take a carpet of normal shape, a rug completing the floor-covering by filling the fire-recess.

The small dining-room used for that purpose and as a second reception-room when an alternative is required needs only to house a dining-table and chairs, a sideboard, and perhaps a bureau or bookcase and an easy-chair or two.

A regular form is, therefore, best, and a size of 13 ft. by 16 ft., or as an absolute minimum 12 ft. by 14 ft. will be found desirable. It is a good thing if a radiator can be provided to create a background of warmth, leaving a gas or electric fire to supply the final touch at meal-times or occasions of other use. The position of the fire should not be directly behind the head of the table. A contrast in shape to the other chief room and a difference in lighting and general arrangement makes for charm. There is nothing duller than a house in which all the best rooms are similar in essentials.

Though the hall must probably be small, it need not be poky. It should not be encumbered with the staircase, which with a little thought can generally be coaxed into a recess in which it is made to follow the slope of the roof. Besides being wasteful, a stair which exposes the whole height from ground floor to bedroom-ceiling level is bound to have a gaunt effect. The stair should be easily reached from the kitchen quarters (unless a service stair is provided, as in the larger type) and preferably should not face or be exposed by the front entrance door. If the hall can be so planned as to concentrate its limited area in square or wide rectangular form, rather than as a passageway, a feeling of space quite beyond the actual dimensions is achieved. The protrusion of the bottom flight into an angle of the square is hardly felt as an encroachment, but takes its place as practically an article of furniture (see illustration to last chapter).

The kitchen quarters are scarcely so readily conformable to precept. They depend, as

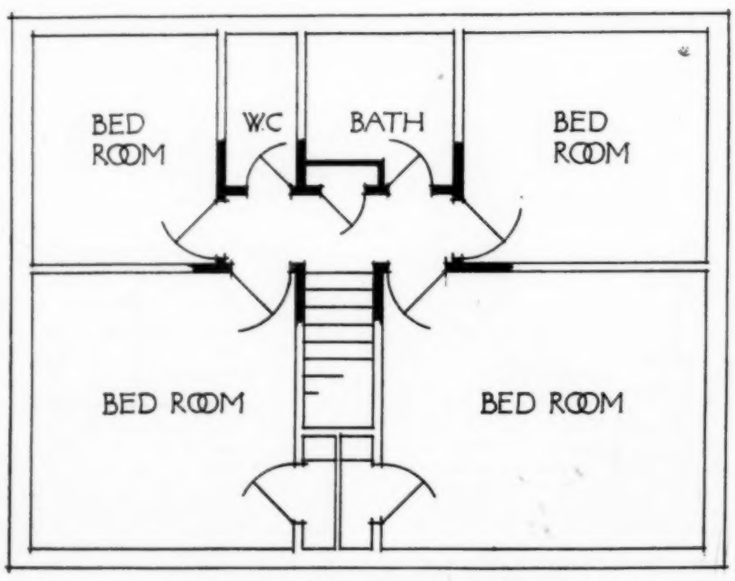


W.C. Plan.

already explained, on the domestic ritual and the nature of the very varied appliances they may be intended to house. Bedrooms should, of course, provide a good position for the bed—trite and obvious, but not invariably recognised. A small room affords more floor space if in long rectangular form than when square in shape, provided the positions of bed, door, window and fireplace are well arranged. Two rooms 12 ft. by 15 ft. and two 12 ft. x 8 ft. make a useful outfit.

For really tight planning the first-floor landing may well be the starting point, the arrangement here shown giving a result incapable of further economy. A plan based on it is also indicated in outline.

Minimum sizes for bathroom and w.c. are respectively 5 ft. 3 in. by 7 ft. 6 in. (allowing room for bath, lavatory basin, and chair and door to hot closet); and 2 ft. 9 in. by 5 ft. 3 in. Bath and w.c. doors need be no wider than 2 ft. since large furniture has not to be carried in. The smaller door is less obstructive when open. A w.c. door when better suiting plan arrangement may quite well open at the side rather than the end of the apartment, and if swung to fold back against the pedestal removes that necessary but unattractive fitting from the extreme visibility which it sometimes enjoys—see plan.



Economically Planned Bedroom Floor.

Preston Proposed Municipal Buildings.

The Town Council has adopted a scheme for the erection of new municipal buildings, to be erected at a cost of £200,000, and the appointment of Messrs. Briggs & Thornely, of Liverpool, as architects. A site of 2,630 sq. yds. has been purchased at a cost of £26,000.

Registration as Probationer R.I.B.A.

The Board of Architectural Education calls special attention to the fact that, except in very special cases, a Headmaster's Certificate will not be accepted after October 1, 1927, and no one will be registered as a Probationer of the R.I.B.A. unless that person has passed one of the recognised examinations in the required subjects. A list of the examinations recognised may be obtained free at the R.I.B.A.

Manchester Housing.

The Housing Committee has decided to recommend the City Council to make compulsory orders for the acquisition of three separate areas of land within the city, aggregating nearly 100 acres, which should be sufficient for 1,100 houses. The districts in which these areas are situated are Moston, Gorton, and Burnage.

London Archæological Discovery.

The architectural remains of the mediæval London Church of the Black Friars, which were recently discovered in the course of excavations for new commercial buildings, have been removed to and erected in the grounds of the Dominican Priory, Hampstead. The site of this church, with its priory and grounds, was between Carter-lane on the north and Printing House-square (the offices of *The Times*) to the south, bounded on the west by Water-lane, and on the east by Friar-street. The remains as they now stand consist of parts of two massive pillars, with their bases and capital, flanked on one side by some of the stones of the church erected in the form of an altar, and on the other side by a portion of the wall of the choir taken from its original position.

SPECIFICATIONS—III

By H. V. MILNES EMERSON, A.R.I.B.A.

DRAINAGE.

NOTES.—The method of drainage varies in different localities, and acquaintance should be made with the by-laws and the requirements of the local authorities. In districts where the soil sewer is not capable of dealing with a large amount of water, rain and surface water has to be carried in a separate sewer, or the authorities will allow this water to discharge in soakaways on the site. In country districts where a sewer is non-existent the sewage is conveyed to a cesspool, or septic tank, and the rain water to storage tanks, soakaways, or stream. Soil drains should be watertight, and in the absence of a hard, natural bed, the pipes should be laid on a bed of concrete and benched up each side or entirely covered with concrete, the last making a strong drain.

Modern drains are constructed with glazed stoneware pipes and fittings, or in special cases with cast-iron pipes. The stoneware pipes should be impervious, straight, and well glazed. The joints are usually made with neat cement or cement and sand (1 to 1). In special cases, such as when the pipes are laid in water (water-logged soil), a special or patent joint is necessary.

55. PIPES.—To be "British Standard Tested" salt-glazed stoneware socket pipes, thoroughly impervious, sound and straight, laid to uniform fall, and in straight runs on 4 in. cement concrete foundations (1 to 8), 1 ft. 6 in. wide, covered with a similar thickness of concrete or benched up to the top of the pipes, joints to be made with neat cement, the inside surplus cement to be removed and the pipes carefully wiped clean.

The surface water pipes to be similar in quality (or, untested in place of tested), but laid on foundation, rammed if necessary, without concrete.

Supply all necessary bends, junctions, taper pipes, and make proper connections to manholes.

Note.—The nature of the ground and the requirements of the local authorities will decide if concrete is required under these drains.

56. GRADIENT.—The pipes to be laid to true gradients from point to point, with a fall of not more than 1 in 30, or less than 1 in 40 ft.

Note.—The sizes of the pipes depend upon the amount of sewage to be conveyed, and the gradient should be such to ensure the drain being self-cleansing. In ordinary house drains the flow of sewage should be about 275 ft. per minute. A 4 in. pipe will, laid to a fall of 1 in 40, have a velocity of 285 ft. per minute, and will discharge a maximum of 145 galls. in that time. A 6 in. drain, laid to a fall of 1 in 60, will have a velocity of 287 ft. per minute, and will discharge 320 galls. in that period. An easy way to arrive at a self-cleansing fall for a drain is to add an 0 to the diameter, call the result feet, and give a fall of 1 ft. for that distance. Thus a 4 in. drain would have a fall of 1 ft. in 40 ft., a 6 in. drain 1 ft. in 60 ft., a 9 in. drain 1 ft. in 90 ft., and so on.

57. ARCHES.—Turn arches over drain pipes where passing through or under walls.

58. BED FEET OF VERTICAL PIPES.—The bend at the foot of all soil, rainwater, ventilating, and other pipes to be bedded in solid concrete.

59. GULLIES TO SINK AND BATH WASTES.—Provide and set trapped stoneware gullies of approved pattern bedded in concrete and jointed to drain.

60. R.W. GULLIES.—Provide and set to R.W. pipes where not otherwise specified or where same do not discharge into hoppers of waste pipes, 4 in. trapped stoneware gullies of approved pattern with back or side inlets as required bedded in concrete and jointed to drain.

All gullies to be fitted with galvanised iron or approved grating. All gullies (except for surface water) and channels to have brick on edge rims on all sides rendered on exposed surfaces in cement, and if adjoining a house the wall to be rendered 9 in. high in cement stucco.

61. R.W. SHOES.—Where rainwater drains are provided with ordinary traps, supply and fix at foot of R.W. pipe 4 in. diameter approved glazed stoneware shoes set on concrete, jointed to drain and fitted with galvanised iron grating.

62. CLEANING EYES.—Form cleaning eyes where required on drains with sloping length of 4 in. pipe, fitted with stoneware stopper bedded in cart grease and sand, enclose pipes in cement concrete 6 in. thick and cover with a 2 in. stone (or concrete) slab 15 in. by 15 in.

Note.—Cleaning eyes are used at the angles of drains and take the place of manholes. Some precaution should be taken to prevent the position of the eye being lost in the course of time, and a small galvanised cover and frame might take the place of a stone or concrete slab, as the former is less likely to be covered up.

63. MANHOLES.—Build manholes and intercepting chambers where shown, and of the sizes required, with brick sides and 6 in. cement bottoms benched up in brickwork or fine cement concrete to steep falls, and rendered internally 3 ft. up with cement and sand (1 to 3) trowelled smooth. Provide approved heavy galvanised cast-iron locking cover and frame, sizes as required, bedded in cement and the covers set in cart grease. Form channels with half-round main channels and branch channels of salt-glazed ware bedded and benched up in cement concrete. Fit to manholes more than 3 ft. deep angle cast-iron coated step iron built in at 18 in. intervals.

All manholes up to 3 ft. in depth to have half-brick sides, those over 3 ft. deep to have 9 in. sides.

Internal sizes of all manholes to be 2 ft. 3 in. in width and of the following lengths :—

Where no branch channels, 1 ft. 10½ in. long (in clear).

With one branch channel on one side, 2 ft. 3 in. long.

With two branch channels on one side, 2 ft. 7½ in. long.

With three branch channels on one side, 3 ft. 4½ in. long.

With four branch channels on one side, 4 ft. 1½ in. long.

64. INTERCEPTING TRAP.—Provide and build in side of manhole nearest sewer (where indicated) approved salt-glazed intercepting trap, with cleaning arm and stopper bedded in cart grease and sand, secured to wall with hook and chain. The trap to be bedded on cement concrete and connected to drain.

Note.—If the stopper is secured to wall it prevents same being lost during any cleaning operations.

65. R.W. TRAP.—Provide to rain-water drains where shown an ordinary trap with extension and junction pieces as required to receive branch drains and extend to surface with iron grid set in cement.

Note.—This system of trapping is used when rain-water gullies are not provided with traps.

66. VENT PIPES.—Provide and fix where shown 3½ in. lead pipes with wiped soldered joints (or 3½ in. cast-iron vent pipe, — lb. per yard, with lead-caulked joints or cement joints), carried up to a height of 3 ft. above eaves, with a — lb. lead slate where passing through the roof, and fix a galvanised wire balloon grating to end of each pipe. Where eaves are less than 9 in. in projection provide offset and carry up outside line of eaves.

67. FRESH AIR INLETS.—Provide, where shown, fresh air inlets, with drain pipe connected to manhole with bend at end, and fix to bend a galvanised cast-iron mica flap inlet valve.

68. CONNECTION TO SEWER.—Give all notices and pay all charges to the local authority for connection of drain from the boundary of the site to the sewer and making good to surfaces of road and footway.

69. TESTING.—No length of drain shall be covered up until it has been tested and passed by the architect, and after completion the whole system is to be tested and passed by the architect. Test drains with water, and soil or other vertical pipes with smoke.

Note.—Water is now generally used for testing new drains. Such drains should not be subjected to a big head of water, and the cement joints should be allowed to set for at least four days before testing. Smoke rockets are used for testing the vertical pipes, defective joints being discernible by the escape of smoke.

Notes on Drainage to Cesspool, &c.—Cesspools usually have to be kept at a distance of not less than 50 ft. from a building, and not less than 80 ft. from any well, spring, or stream likely to be used for drinking, etc.

Cesspools must be emptied periodically. With the installation of baths in houses and the conveyance of waste from sinks, lavatory basins, &c., this would have to be done every week or so. To avoid this an overflow should be provided and the contents carried to an underground filter bed. In suitable ground, such as chalk, the cesspool can be formed without walls, simply cut into the chalk, domed over with brickwork, and the contents allowed to percolate through the fissures. In the case of porous ground the walls can be built dry, *i.e.*, without cement or mortar. The presence of a filter bed allows of the filling of such bed being removed and replaced with fresh material.

A cesspool forms the first part of a septic tank. In it the contents are disintegrated by the action of bacteria, which causes the solids to split into minute particles and to pass from the chamber in the form of polluted water. The deposit remaining in the tank is very small, amounting to about an inch in depth in 10 years. The fluid, after passing from the tank, should, preferably, be discharged over open filter beds, two such beds being provided, one filling and one emptying. Bacteria again attack the contents of the bed whilst being filled, and again when it is empty. The water passes from the filtering beds in a comparatively pure condition, and can be turned into a stream without fear of contamination. This septic tank plant would be installed for a large country house or institution, but for a smaller house the cesspool and underground filter bed will prove quite satisfactory.

The size of the cesspool should have a capacity of about 1,000 galls. The outlet pipe should be fitted with a bend which, being below the water level, prevent the solids and scum from entering the pipe. The filter bed should be about 6 ft. square, and the bottom about 5 ft. below the inlet. The bottom of the filter bed should, if possible, be in porous soil. If it is a clay or non-porous soil, the filter bed should be drained. Suitable material for filtering would be large clinker, bricks, or other porous material. The outlet from the tank should discharge into open jointed pipes laid in rows on the top of the bed, and these pipes covered with large clinker or bricks so arranged as to prevent the soil above percolating down and choking the pipes. The soil is then filled in, rammed, and levelled to the surrounding surface.

RAINWATER.—Rainwater from country houses can be discharged into streams, soakaways or tanks. The soakaway is constructed in a similar manner to the filter bed described above, but the branch pipes are not required. A chamber should be formed at the end of the drain pipe, composed of bricks laid dry, in order to prevent the end of the pipe becoming choked. The size of the soakaways depend upon the absorbent nature of the surrounding ground.

RAINWATER TANKS.—To be constructed in brick or other materials and rendered waterproof. It should be provided with a sump or catchpit at the inlet to trap any dirt. This pit being provided with a portable cover and fitted with tray and handle, can be cleaned out at intervals. The manhole should be placed at the side of the tank ;

this allows ready access to the tank and pump gear. The size of the tank depends upon requirements. A tank with a capacity of 1,000 gallons will take the contents of a 2 in. fall of rain from a horizontal roof area of nearly 1,000 sq. ft.

70. CESSPOOL.—Build in 9 in. brickwork in cement mortar a circular cesspool 6 ft. diameter and 6 ft. deep below the inlet (1,000 gallons) on 6 in. cement concrete foundation. Render the inside with 1 in. cement and sand (1 and 1), and puddle the outside with 9 in. clay. Dome over the top in brickwork (or cover with 6 in. reinforced concrete slab). Form manhole opening with brick shaft, and fit heavy cast-iron manhole cover let into 4 in. tooled York stone (or cement concrete) curb. Carry from cesspool to filtering bed a 4 in. drain with bend to outlet in chamber.

71. FILTERING BED.—The filter bed to be 6 ft. by 6 ft. and 5 ft. below the discharge pipe. Where not in porous earth to be connected to ditch with 4 in. drain pipes jointed in clay. Fill in the bed with large clinker, broken bricks or other approved porous material up to the level of outlet pipe from cesspool. Lay open drain pipes on same in four rows, connect to outlet pipe, and cover to depth of 12 in. with breeze or broken brick, consolidate same, fill in with soil, ram and level with surface.

72. RAINWATER TANK.—Build with 9 in. brickwork in cement mortar 8 ft. internal diameter, and 8 ft. below the inlet on 6 in. cement concrete foundation mixed with .....or other approved waterproofing material. Render internal surface with 1 in. cement and sand (1 and 1) and ..... or other approved waterproofing material added in accordance with the manufacturer's instructions. Dome over top in brickwork (or cover with 6 in. reinforced cement concrete slab). Form opening at side for manhole, carry same to surface, and fit galvanised iron manhole cover and frame set in 4 in. tooled York stone curb (or cement curb). Form at side of manhole a catch pit 15 in. square fitted with similar galvanised cover and curb. Fit with gunmetal tray and handle and form inlet from catchpit to manhole opening. Build in 9 in. by 4½ in. galvanised iron steps 12 in. apart. Take 4 in. overflow drain from tank to .....

Fix in scullery 1¼ in. rotary pump and connect same to rainwater tank with 1¼ in. galvanised iron pipe, and fitted with strainer at end fixed 12 in. from bottom of tank.

Note.—If the service pipe is in lead it should be protected with concrete if less than 18 in. below the surface of the ground. If the household are dependent upon rainwater for domestic use, storage tanks should be provided to hold not less than three months' supply.

The type of pump will depend upon the depth from which the water will have to be raised.

73. IRON DRAINS.—The iron drain pipes to be coated inside and out with Dr. Angus Smith's solution, joints to be formed with tarred yarn and molten lead (or lead ribbon), and properly caulked.

All pipes not resting upon solid ground to have 18 in. by 18 in. by 6 in. concrete bed under the sockets.

Note.—The need of a concrete bed or extra supports other than those provided will depend upon the nature of the ground. Iron drains are an advantage in marshy ground, and also in buildings where drains have to be carried on the walls and ceilings owing to the sewer not being at a sufficient depth.

74. FLUSHING TANK.—Fix in position shown at head of drain a ..... gallon automatic flushing tank on strong iron brackets, and connect to drain with 4 in. iron pipe, or stoneware pipe encased in concrete. Connect to water supply with ½ in. lead pipe fitted with stop cock.

Note.—A flushing tank is necessary where the fall of the drain is not sufficient to be self-cleansing. If exposed to frost the tank should be protected with a wood covering packed with silicate wool or other suitable material.

THE ARCHITECTURE OF DENMARK AND SWEDEN

IN a paper on this subject given recently before a London society, Mr. Manning Robertson said that the visit of the Architectural Association to Scandinavia last June occupied only a fortnight, and hence, in spite of frantic sight-seeing, they were unable to cover more than a small portion of each country. The first impression—and also the most enduring—of the recent architecture of these Scandinavian countries was its high average and its simple grace. Everything was pleasant to look at, and the smallest work conveyed significance. Negatively, the unsightly advertisement was rare, and where it existed it was always parading some English commodity only too familiar to us here. In Denmark was found a peculiarly persistent tradition, of which the thread never appeared to have been lost, and showing a strong kinship with corresponding work of slightly later date in England. In Ribe, a town which had preserved its ancient character in an almost unique degree, they could trace the old half-timber gradually merging into the dignity and reticence of what we would call Georgian, and finally radiating into a thin outer ring of attractive modern work that pleasantly recalled our own best modern work at Welwyn and elsewhere.

Still lingering in traditional Denmark, they were introduced, in the great castles of Egeskov and Hesselagegaard, to another expression of early sixteenth-century work. These castles were executed in glorious brickwork set in great moats, each conveying an impression of complete architectural unity. The third castle visited, that of Holckhavn, was much larger and dated from different centuries, and here one could discover the origin of the peculiar brick treatment in the Danish pavilion at the Paris Exhibition, where, the lecturer thought, it was every third course of bricks that was recessed and whitened, giving the impression of immense mortar joints that produced an emphasised and horizontal texture.

Among buildings of the larger kind the party visited was the great academy or public school at Sorö, founded by Ludwig Holberg, of Magdalen College, Oxford. The main building dated from 1822, but the charming detached wing blocks were much earlier. Perhaps the two most noteworthy details were those contributed by artists or craftsmen—the modern fountain in the courtyard and the very ancient and exquisite crucifix in the old chapel alongside. It was with the larger royal castles, however, that the most ambitious of Flemish Renaissance expression was to be found, preserving as its special characteristic a sensitive touch of outline and gable which was never altogether smothered in the mass of masonry and ornament. The green copper roofing and spiked spire and dome united grace to colour and averted the sense of overweighted bulk. This feeling was conspicuous at Frederiksborg, now used as a museum. At Elsinore there stood the great castle of Kronborg, on the ramparts of which Hamlet saw his father's ghost—as dramatic a pile in outline and situation as the most romantic could demand.

Copenhagen itself, strongly conscious of the sea and its responsibilities as a port, was essentially self-contained as a capital city. With wide streets and noble centres it conveyed what must be for a modern town a unique impression of unity. In the heart of the city stood the great town hall, built some twenty-five years ago by Nyrop. But although in its stately bulk this building might suggest the robust burgher and civic prosperity, yet the traditional feeling of much older work was revived again in its walls, and one could easily trace the romantic impulse that reached its apotheosis in the Town Hall at Stockholm. The new tenements, flats and schools that spread themselves in all directions were built so much on the lines of our own best work—the L.C.C. Tabard-street scheme might well be in Copenhagen—that we were reinforced in our confidence that we ourselves were on the right road at last. The greatest among the recently finished buildings in Copenhagen was the new Police Headquarters, designed by Kampmann, and completed by Jacobson and Rafn, with its rather dour stucco façade and its classical tawny stone-faced interior. The colour scheme inside was carried logically through all the corridors.

In Sweden was found the same high level of general design and interest in architecture and the crafts that accompany it. From the train one saw vast forests, lakes, and timber dwellings. Stockholm disapproved of being called "the Venice of the North," because she said, with a good deal of reason, she was superior to Venice. Beyond the fact that they were both situated on salt water there was little enough in common between the two towns. Venice, on the flat, set in shallow lagoons; Stockholm standing on huge, rocky hills and crags intersected by great streaks of deep sea water—a city of northern vigour and masculine strength. Ice-bound for months on end in winter, in summer and autumn it was served mainly by steamers that could penetrate for scores of miles up the great lake of Mälaren, on which the city stands. Stockholm had responded more to outside influences than had Copenhagen. Russian, German and French culture had all left their marks and given stimulation to its quick-witted people. If the consequences were not always happy, they were at least always interesting.

To begin with traditional work: some distance inland, but still situated on the lake of Mälaren, there stood the great sixteenth-century castle of Gripsholm and the eighteenth-century palace of Drottningholm. At Gripsholm they were introduced to the traditional secco and fresco colour decoration on beam and plaster that had obviously inspired the designer and decorators of the new Town Hall. Near Gripsholm, on the lake, was the delightful Wren-like spire of Mariefred Church.

In the grounds of Drottningholm they found the enchanting little China Pavilion, designed and executed by Chinese craftsmen as a birthday present from a king to his queen. The palace of Drottningholm itself was a fine Renaissance building with nothing peculiarly local or traditional, but quiet and imposing. Perhaps the most instructive lesson in this older work was the close alliance everywhere shown between architect and craftsman. The work of the one was innate in that of the other, suggesting that so-called national architecture was that which reflected the hand-work of the people and the soil.

In the modern architecture of Stockholm they found an unexpected development in architectural thought. The Town Hall, designed and won in competition by Ragnar Ostberg, was completed only in 1922. It represented the summit and apotheosis of the great Swedish romantic school, but it no longer represented the ideal after which the younger school in Sweden were striving. This was natural and right, for in itself it was the last word in its own medium. Founded on tradition, it was yet intensely personal, and the original design was hardly recognisable in the completed work. For twelve years Ostberg devoted himself entirely to this one building. Every craftsman of unusual ability in the country was called upon to provide his contribution, and the public provided theirs in gifts of copper, each of which was fixed on the roof according to the sized piece that the giver could afford.

Among the other great buildings of roughly the same period were the Courts of Justice, that seemed to embody the robust vigour and humour of their creator, Mr. C. Westman.

To the buildings of this romantic school must be added the Hogalids Church by Ivar Tengbom and the Engelbrekts Church, designed by Professor Wahlman. In both these churches the exteriors were effective in themselves, but did not in the least prepare one for the more solid qualities to be found within. From the outside the Hogalids Church presented elegant twin towers that matched but were not exactly alike; executed in brick and copper, they symbolised the Old and the New Testaments. In the interior the windows were hidden in deep arched recesses sunk between what were really internal buttresses, the aisles being threaded through round arches on the buttresses. As in most Swedish churches, the altar-rail was semi-circular on plan, which gave a sympathetic line to the sanctuary and provided a sense of intimacy and communion between priest and people. The outside of the Engelbrekts Church was akin to that of the Hogalids, and both were situated on rocky escarpments. The inside, however, was entirely different. It consisted of a central square approached from the four sides by four stone arches, telescoping towards the back. These arches appeared to be parabolas, but the architect told the lecturer that they were free-hand curves approximating to that shape. The wind pressure on the nave walls was taken on heavy internal reinforced concrete cornices.

All the buildings so far examined belonged to what the lecturer called the romantic school, and the newest work would show the present-day return to a more fastidious type of classicism in which complete harmony was expected to take the place of the striking discord. In this country (continued the lecturer) our modern cemeteries were suited to their purpose—they were only fit to be dead in; but that at Stockholm was set in a pine forest redolent with peace and beauty. Many of the graves were marked with small wood crosses; the headstones were small, of local stone, and in perfect taste, designed by architects. In the middle there stood a little mortuary chapel, designed by Mr. G. Asplund, with its shingle roof; it was square outside and circular within, showing to advantage the new interpretation of classicism to which he had alluded. The same architect was responsible for the Scandia Cinema—a jovial *jeu d'esprit*. He had placed one building inside another. The outer shell protected from Stockholm's icy blasts, and transferred them to a sub-tropical night where they found themselves faced by the entrance to a cinema. On entering this inner building they were under a tropical sky (made, when one looked into the matter, of black velvet) from which were suspended the illuminations in the form of orange globe Chinese lanterns. A brilliant gold and red canopy contained the galleries that ran the full length down the sides.

In conclusion, the lecturer said that he found their Danish and Swedish hosts kindness and hospitality personified, and he hoped that his inadequate paper might persuade someone else to visit those countries. To the bad sailor he would say go overland through Holland and Hamburg, which places themselves contained a great deal that was representative of new ideas and experiments in architecture.

Gift to Stockton Corporation.

The late Col. G. O. Spence, C.B., D.S.O., of Far End, Kirklevington, Yarm-upon-Tees, Yorks., formerly a ship-builder of the South Stockton Shipyard, Thornaby-on-Tees, has left a bequest for the purchase of a site in Stockton for the erection thereon of a public hall.

Roman Remains at Colchester.

The foundations of a Roman wall, 3½ ft. thick, composed entirely of septaria, have been discovered in the course of building operations in Culver-street, Colchester, near the centre of the town. A well, about 6 ft. in diameter, has been found close by. Built of Roman material, which apparently was re-used, the well is believed to be of mediæval date.

REINFORCED CONCRETE IN BUILDING CONSTRUCTION

III.—RAPID BUILDING.

EVERYONE will agree that when the construction of a building has once been decided upon, the sooner work is commenced and finished the better for all concerned. Reinforced concrete lends itself to rapid building for several reasons, and especially is this the case if rapid-hardening cement is used. The constituent materials can be obtained readily and quickly without the delays often experienced in the supply of brick and stone and other material. Portland cement is manufactured at places within easy reach of all parts of the country. Sand and aggregate of suitable quality are often obtainable from beds of gravel on or near the site of the work to be done. In cases where broken stone is preferred to gravel as aggregate, supplies can readily be secured from quarry owners and others making a speciality of this class of aggregate; while in almost every county there are firms who prepare washed, crushed and properly graded sand and aggregate, either gravel or stone, to suit the requirements of architects and engineers. Finally, steel bars, rods and strips for reinforcement are to be bought in the open market in every district, or procured direct from steel manufacturers in the various industrial centres.

The materials for concrete and its application in reinforced concrete require no preparation in workshops or workyards before delivery. The site of the building to be erected, or a small plot of land adjoining, is itself the workshop, and even the building may become the workshop when operations have been fairly started.

The cost of transport of materials for reinforced concrete is comparatively cheap, and when delivered on the site the raw materials for concrete can be unloaded and stored readily. In fact, the bulk of the materials, often transported by road, can be tipped from carts or vans directly upon storage spaces reserved on the site, thus obviating laborious handling and stacking.

Another point of considerable importance is that all the operations included in the preparation and subsequent use of concrete can be carried out mainly by unskilled labour with the aid of time and labour-saving mechanical appliances. Of course, experienced charge hands and foremen are necessary for the careful supervision of every operation, but the same precaution is equally essential in the case of ordinary building work. It is true that the steel used as reinforcement requires a certain amount of preparation, including the cutting and bending of bars, rods, and strips. Such preparation requires no special skill and can be effected very economically, under responsible inspection, by the aid of cutting and cold-bending machines, and the placing of the reinforcement in the moulds also affords scope for a large proportion of unskilled labour.

In all the considerations enumerated, economy of labour is an essential factor, contributing in no small measure to the rapidity of construction in reinforced concrete.

In order that readers may be in a position to draw their own conclusions as to the expeditious manner in which reinforced concrete work can be executed, particulars are subjoined relative to the rates of construction attained in the erection of several important buildings in this country and elsewhere.

The Royal Liver Building, which is so prominent a feature on the waterside in Liverpool, has a reinforced concrete skeleton carrying all loads, including the entire weight of the enclosing masonry walls. Comprising 17 stories in all, the building covers an area of 45,000 square ft., and

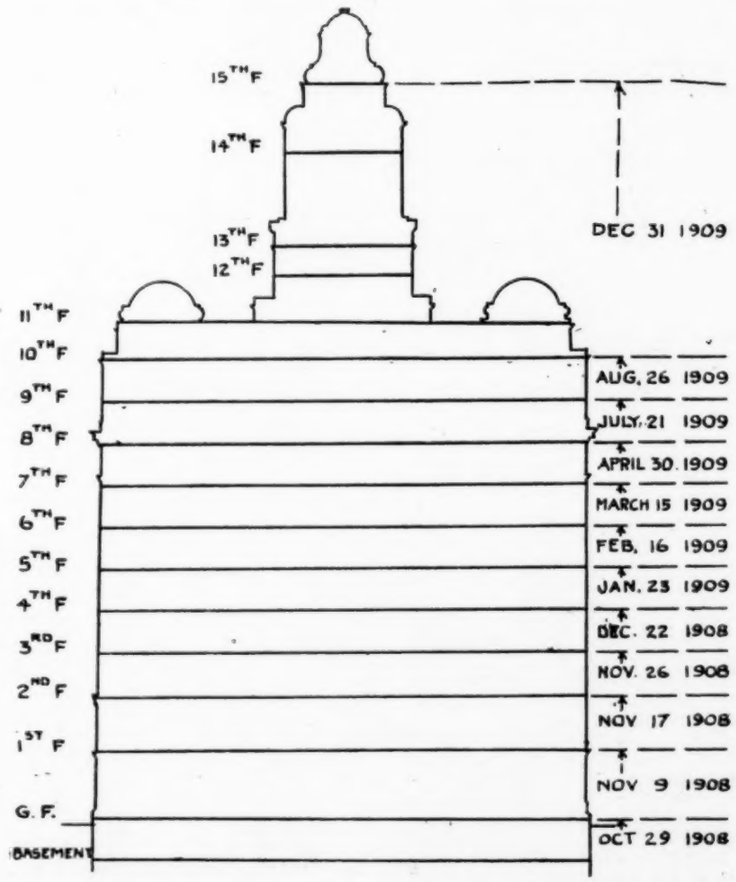


Fig. 1.—The Royal Liver Building, Liverpool: Progress Diagram.

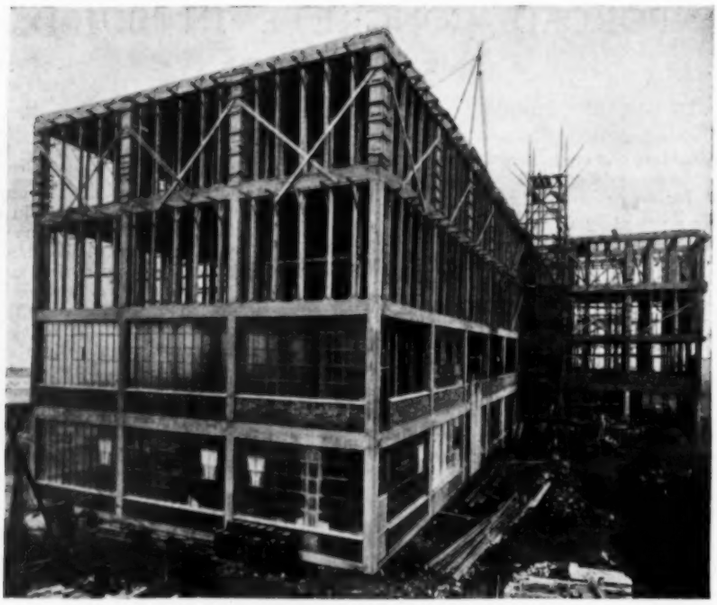


Fig. 2.—Factory of B.S.A. Co., Nov. 20, 1914.

was very rapidly erected, as shown by the accompanying diagram (Fig. 1) prepared from data furnished by Mr. W. Aubrey Thomas, the architect. Operations were much delayed by labour troubles during the construction of the three bottom floors, and exceptionally heavy and complicated work had to be carried out at the eighth, ninth, and tenth floor levels, to provide for the support of the two main towers. From the first to the seventh floor the work was carried out under normal conditions, and each story, including nearly 45,000 square ft. of flooring, wall and interior columns, and numerous long span beams, was completed in the average time of 26 days, or 19 working days. In terms of floor area alone, disregarding other work, this averages at 12,162 square ft. a week.

The Michelin Building, Fulham-road, S.W., (Fig. 1) furnishes another example of rapid construction. Covering an area of about 30,000 square ft., the building has three floors and a terrace roof, and was entirely completed, furnished and occupied within five months from the commencement of work. During the first two months, the reinforced concrete skeleton was finished to roof level, together with all the floors and a large portion of the roof. The progress of work during this period was at the rate of rather less than one week per floor area of 10,000 square ft., including auxiliary construction. Three months later, the building was completely finished and ready for occupation.

Arcadia Works, City-road, E.C. (Fig. 3), built for Messrs. Carreras & Marcianus, Ltd., cigarette manufacturers, attracted a good deal of attention when in course of erection owing to the rapid growth of the structure. The main building includes four stories over a basement, each story comprising 11,200 sq. ft. of flooring, 21 interior columns, 2 staircases and 2 lift wells, all in reinforced concrete, the outer walls being of brick with stone dressings. The time occupied in the completion of each of the upper stories, including the construction of the terrace roof, was fourteen days, the building having been carried up to roof level in ten weeks.

The long range of reinforced concrete warehouses in Manchester Docks, with a total length of 2,250 ft. and a width of 112 ft., comprises five three-story buildings with a collective floor area of nearly 750,000 sq. ft. Constructed entirely of reinforced concrete, the warehouses were completed in about 20 months, 6 months in advance of the contract date, the rate of progress stated in terms of floor area having been approximately 8,700 sq. ft. a week.

Another example is a factory for the B.S.A. Company, the rapid erection of which is illustrated in Figs. 2 and 4.

As a final example in this country, the Money Order Office, Holloway, N., deserves mention. It is of reinforced concrete with the exception of brick enclosing walls, with stone trimmings on the principal façade. The main block and three wings cover an area of about 26,000 sq. ft., the building comprising a basement with an underground boiler house and numerous passages, five upper floors, and a flat roof. A condition of the contract was that the builders should receive a premium of £2,000 if their work were completed within nine months. It was actually completed in eight months, the average time working out at less than six weeks per story, including the whole of the construction.

In the United States, where the utmost advantage is taken of mechanical aids, rapid construction in reinforced concrete is quite the order of the day, but only in very exceptional cases have the records here quoted been materially surpassed. The Edison Building, New York, may be mentioned as one of the exceptions. Measuring 414 ft. by 115 ft. in plan, equal to 47,610 sq. ft., this building is said to have been constructed at the rate of six working days per story, each requiring 2,500 cubic yards of concrete for columns, walls, and floors.

The foregoing examples of rapid building

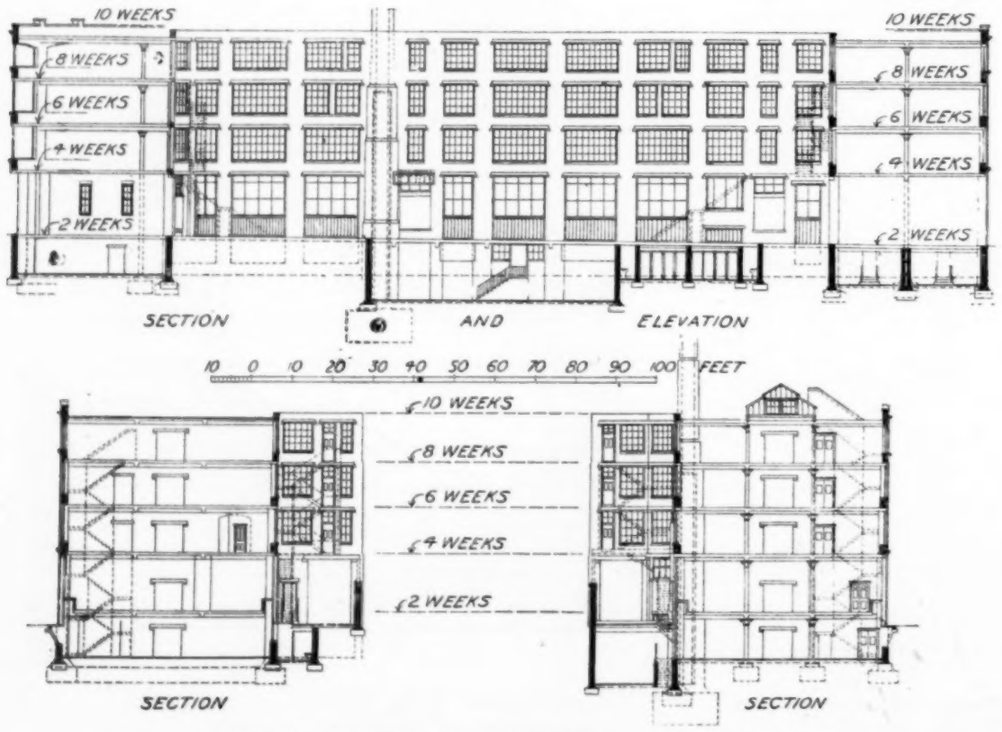


Fig. 3.—Arcadia Tobacco Manufactory, City-road, E.C.

Progress diagrams of construction, showing completion of five stories, each covering 11,200 sq. ft.

illustrate the important saving of time to be effected by the aid of reinforced concrete wherein ordinary Portland cement is employed. Still greater saving can be effected by the aid of the new rapid-hardening cements. As such cements are capable of attaining in two days a strength equal to that of ordinary Portland cements after hardening for 30 days, it is obvious that their employment must simplify the problem of shuttering to a very considerable extent and enable contractors to speed up operations generally. The new rapid-hardening cement can be obtained at a cost very little higher than that of ordinary Portland cement, and consequently involves no appreciable increase in the cost of concrete. On the other hand, where speed of erection is essential, any such increase may be well worth while.

Fig. 5.—Concrete Bordeaux Tower, Paris Exhibition Exhibit.
M. CH. PLUMET, Architect.

Lectures on Modern Painting.

Mr. Frank Rutter, B.A. Cantab., is giving a course of lantern lectures on modern painters, at 5.30 p.m., each Thursday, until February 25, at the Grosvenor School of Modern Art, 33, Warwick-square, S.W.1. The fee is one guinea.

Fig. 4.—Factory for the B.S.A. Co. August 24, 1914.

THE SURVEYORS' INSTITUTION

Annual Dinner.—The Annual Dinner of the Institution will be held at the Connaught Rooms, Great Queen-street, W.C.2, on Tuesday, March 9. The President, Mr. J. D. Wallis, will preside.

Annual Country Meeting.—On the invitation of the Hants, Dorset and South Wilts Branch, the Annual Country Meeting will be held from June 30 to July 2, at Salisbury. An interesting programme is being arranged, particulars of which will be published later.

The Housing Act, 1925—Improvement and Reconstruction Schemes.—The basis of compensation payable in respect of property scheduled under improvement and reconstruction schemes has recently been made the subject of a memorandum by the Council of the Institution, in which proposals are made for an amendment of the existing law, with the object of removing the grievances to which the present method of calculating compensation have given rise. The Minister of Health will receive a deputation on the subject from the Council on February 2.

The Agricultural Holdings Act, 1923—Certificates of Bad Farming.—The Agricultural Committee of the Institution has been considering the failure in practice of the provisions contained in Section 12 (2) of the 1923 Act for the issue of certificates of bad farming by County Agricultural Committees. It was anticipated that this provision, with its accompanying menace to a claim for disturbance, would tend to raise the standard of farming. In practice, however, County Agricultural Committees have been very chary of giving certificates, even where the shortcomings of the occupier are obvious and notorious. The Council have suggested to the Ministry of Agriculture that powers should be obtained for the issue of regulations or instructions governing the procedure of County Agricultural Committees in dealing with applications for such certificates, and requiring them to give both parties or their representatives equal opportunities of being present at inspections of farms and of hearing and replying to evidence submitted by the other party.

We have received the January number of the *Journal of the Surveyors' Institution*, obtainable from the premises, at 12, Great George-street, Westminster, price 2s. 6d. This issue contains a useful dissertation on compensation for property scheduled under improvement schemes of the Housing Act, 1925. Other articles deal with income-tax claims for expenses of management of minerals, the basis of valuation for rating purposes in Ireland, the United States, and Belgium, modern methods of road-making, recent forestry development, &c.

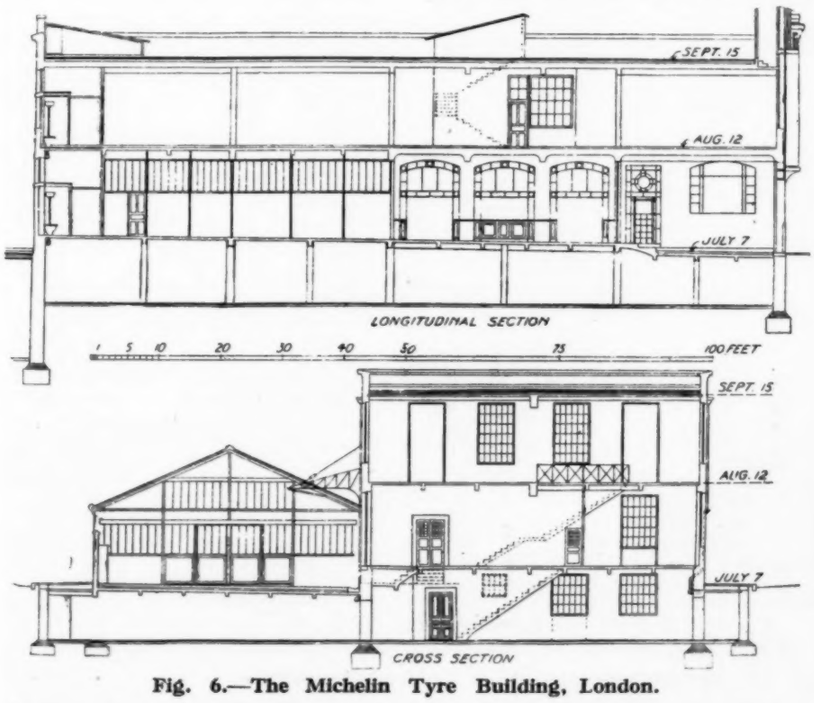


Fig. 6.—The Michelin Tyre Building, London.
Progress diagrams of construction, showing partial completion to roof in two months.

St. Stephen's Hall, Westminster.

Sir Charles Barry, the architect of the new Palace of Westminster, designed that the panels below the eight windows in St. Stephen's Hall should be occupied by paintings. The Office of Works has chosen the episodes to be illustrated, which are "typical and fateful stages in our national growth," and the artists who are to depict them. They are as follows: (1) King Alfred's Fleet defeating the Danes in a storm off Swanage, A.D. 877—Colin Gill. (2) Richard Cœur de Lion sails for the Crusade, December 11, 1189—Glyn Philpot, R.A. (3) The Barons and King John ratifying the Magna Carta at Runnymede, 1215—Charles Sims, R.A. (4) The Wycliffe Bible read in secret meeting, 1400-1430—George Clausen, R.A. (5) The Speaker (Sir Thomas More) refusing to grant Cardinal Wolsey a royal subsidy without debate, 1523—Vivian Forbes. (6) Queen Elizabeth commissioning Sir Walter Raleigh to "discover unknown countries," 1584—A. K. Lawrence. (7) Sir Thomas Roe at Ajmir before Jehangir, the Mogul Emperor, as envoy from James I, 1614—Prof. William Rothenstein. (8) Queen Anne giving Royal Assent to the Act of Union with Scotland, 1707—W. J. Monnington. The work will be co-ordinated by, and carried out in consultation with, Sir D. Y. Cameron, R.A.

THE ARTS AND CRAFTS EXHIBITION SOCIETY

The foreword to the Catalogue of this Exhibition, which has been forwarded to us, gives respectable recognition to the importance of craftsmanship and the right use of materials, but shows little of that militant spirit which carries forward movements, and is rather apologetic and lacking in conviction. It is much better, no doubt, not to overstate a case; none the less, to speak with an uncertain voice suggests compromise, and we should like to have seen a bolder spirit announcing itself. The fact is that the movement associated with William Morris has failed to retain in these latter years the momentum out of which it was born, and is not carried on by any outstanding personality.

The Society is no less doing useful work, because its claim "to maintain the reputation of craftsmanship" is a little fanciful, seeing that some of the best craftsmen's work is not included in its exhibition. Like so many other bodies, the Society should be content to be representative of itself, avoiding challenging claims. Within these limitations, as we should expect, there is much interesting work shown, and it is really no matter for regret, but a distinct advance in the proper understanding of the subject, that no Society can claim for a moment "to maintain the reputation of craftsmanship," any more than of art, which is maintained solely by the genius and conviction of the artist, whether inside or out of organisations.

Associations of artists and craftsmen are becoming more and more, and very rightly and legitimately, as their real purpose becomes manifest, the means of forwarding the interests of their members' work, and the day is perhaps not far distant when it will raise a smile that any such organisation should assume to "maintain the reputation of craftsmanship." It is important to understand this, as from the natural limitations besetting such associations, in which the good is seen so often in antagonism with the best, tending rather to maintain an average and to keep the best outside.

In the general purport of the principles put forward we can all find agreement, though the application of them is beset with difficulty. It is no doubt true, as the "Foreword" tells us, that "manufacturing and official people are coming to recognise" the value of design and personal craft work. But the marriage must not be one of convenience only—to push the goods, but one in which there is mutual recognition that man does not live by bread alone. The profit of beauty and craftsmanship is not always resolvable into dividends, but is the evidence of new valuations of the nature of wealth and the profit to life.

It may be we shall see a disintegration of this excessive organisation of Art through officials, associations, and machinery generally, and of all this elaborate network which has tended to overlay it more and more. Are there not even signs of it already? But it can only emerge from this enclosed state as deepened conviction in the artist gives him greater strength to stand alone, knowing that his destiny lies within his own hands. Then his example, promoting a new, more courageous spirit, will give greater freedom, prominence, and beauty to Art, because it rests on greater truth.

One of the strongest features in these exhibitions when Gimson and others were giving us of their best was the furniture. In the current exhibition metal-work, jewellery, needlework, and glass windows are more noticeable. There are some cleverly designed pieces of furniture, but hardly one which fully satisfies as to its right treatment of material or satisfying completion of design: the simplicity is often baldness and the richness misapplied. Elaborately built-up and decorated seat-backs seem somehow a misapplication of effort, and to treat the front of a cupboard in however pleasing a way, when it more follows the treatment one looks for in stone or metal, can hardly be satisfactory.

The many exhibits of the late W. A. S. Benson's metal-work are a kindly memorial of what he did to revive interest in copper and brass ware; at his best his work was very good. One of the noticeably clever things is the "Macaws" wallpaper, by Phillip Connard, R.A., made by Jeffrey & Co.; this is an admirable piece of wall-covering design. It would be hardly possible within the limits of our space to refer in detail to those things which claim notice, such as the fine work shown by Henry Wilson, Ed. Spencer, Herbert Baker, G. S. Gray, and others. The exhibition is worth careful study, and if it is not just what we could hope for, it is still good, and we must hope for better developments in the future.

THE "BUILDER" COMPETITION.

PROBLEM No. 3.

THIS competition is limited to students of any recognised school of architecture or building, assistants who have not passed the Final of the R.I.B.A., and builders and others engaged in the building industry not over 25 years of age. Practising architects, builders and others, and senior assistants will not be eligible. Solutions employing new materials and construction will be encouraged, and it is hoped that this new feature will prove popular and helpful to our younger readers.

Answers should be clear and concise and illustrated with detailed sketches or drawings where necessary. These solutions will be carefully examined, and that judged the best for the week will receive a prize of £1. Selected replies, together with a report, will be published in subsequent issues, and in the absence of a suitable solution, a model answer will be published. Any solution published, apart from that of the winner, will be paid for at our usual rates.

This week's problem is as follows:—

A main staircase is required in the riverside warehouse. The ground and first floors are to be used as offices and showrooms, and the staircase between these two floors is to be in stone. The staircases from the ground floor to the two basements are to be in concrete, but that from the ground to the first basement is to be of a different construction from that from the first to the second basement. Alternative methods of jointing, pinning, supporting and general construction should be given. The stairs are to be 4 ft. 6 in. wide, and the well should be adapted for a passenger lift. The heights from floor to floor are as follows: Second to first basement, 10 ft.; first basement to ground, floor, 10 ft.; and ground floor to first floor 12 ft. 6 in.

Draw to ¼ in. scale, plans at each floor level, an elevation looking from A A, and section on line B B. Details to 1½ in. scale and a short description of the materials and the construction.

The drawings should be on half Imperial sheets, and the descriptions should be written or typed on foolscap paper. The drawings can be in pencil or ink, and can be folded and posted in a large envelope.

Answers, addressed to the Editor, and marked "Problem 3," to be sent in not later than first post, February 1.

The Editor's decision to be final.

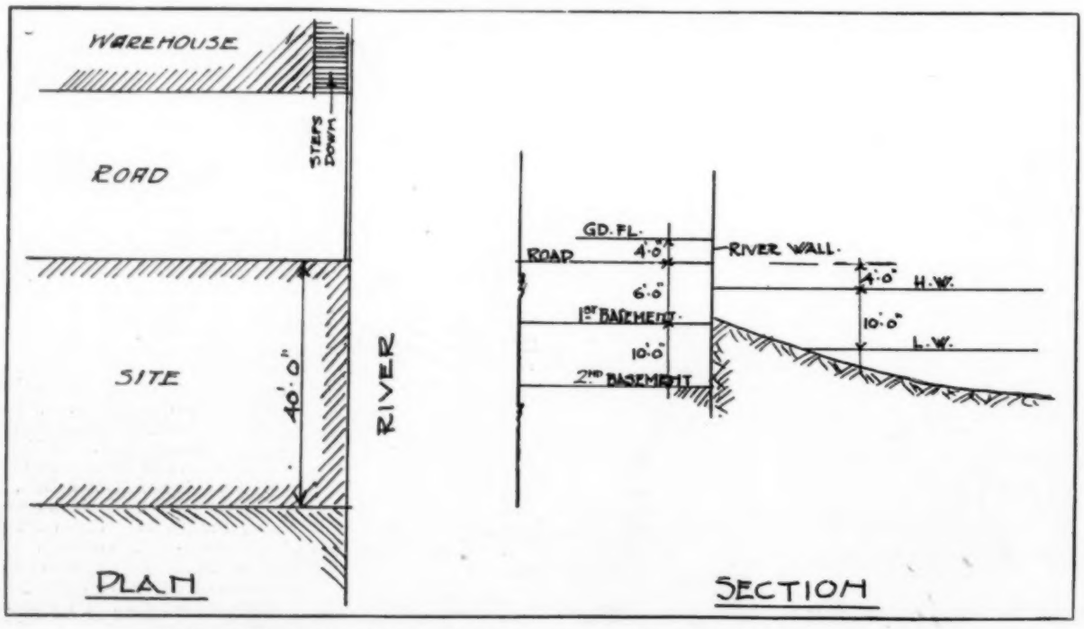


Diagram Illustrating "The Builder" (Constructional Problem) Competition.

The Roadway is 30 ft. wide.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting?—ED.

Exceeding P.C. Sums.

[REPLY TO "INQUIRER," JANUARY 8.]

SIR,—Profit and fixing are two entirely different things. Fixing is a definite labour and in a contract such as this represents the contractor's estimate of what it will cost him to have the particular fittings fixed plus his profit on this cost. The cost of the fittings does not, therefore, enter into the matter, and unless the more expensive fittings selected entailed extra labour in fixing to that required in the fittings first specified, he must not charge an extra on the contract for same. On the question of profit, however, the profit on P.C. amounts is due to the contractor partly in the nature of a perquisite, and partly as a charge for admitting outside specialists and goods on to the job which he has established as a going concern, and also to meet his obligation of holding himself responsible for the safe storage and handling of the goods, and any inconvenience caused thereby to the men in his employ. The contract includes this profit as a percentage, and just as a proportion of the profit would be deducted if the P.C. sums were not entirely expended, so he is entitled to an addition to his profit if the P.C. sums are exceeded. If the contract schedule includes profit and fixing as one sum in each case, an award would be arrived at by fairly splitting up this sum into profit and fixing separately, and dealing with each in the ways above indicated.

In the second query raised by your correspondent, I consider it grossly unfair to ask a builder to tender for a job which includes a presumably heavy sub-contract within the main contract, and then to make this sub-contract a separate contract after the job has started. A contractor presumably considers all the "plums" of a job when tendering, and reckons his margin in accordance therewith. The "swings and roundabouts" have very little chance to function harmoniously if the basis of the contract is allowed to change by any radical amount. As a matter of fact, I believe a general contractor is quite within his rights in refusing access to the job to any outside specialists unless provision has been made for this purpose in the contract. I have nothing to say against the building owner making direct contracts with all specialists and ordering all fittings direct, but such procedure is only fair when the contract makes clear the intended procedure, and the contractor can arm himself accordingly.

JUSTICE.

A Search for Knowledge.

[REPLY TO "A. J. F.," JANUARY 8.]

SIR,—I entirely agree with your Editorial note in a recent issue, and most readers of your journal would regret to see it made a medium for the passing of detailed expert information that should rightly emanate from a professional source in the ordinary course of practice. Without entering into any such details, however, I should advise your correspondent to consider the use of pre-cast concrete steps rather than the whole stair cast *in situ*. One mould will serve for the whole of the steps, which only need the lightest reinforcement rather for safety in handling green than for the ultimate stresses to be anticipated in use. Almost any concrete floor should be fit to carry the bottom of such a small stair without the insertion of any strengthening girder. The steps, since they are presumably to "fly," should be provided with a square end to build into the wall.

ADVICE.

Reinforced Concrete Beam.

SIR,—In the case of a reinforced concrete beam with securely fixed ends, I have worked out the following stresses as occurring in the bottom rods (beam, 12 ft. span; measurements from point of support): (*a*) At point of support compression; (*b*) 2 ft. 6 in. *nil* (point of contra-flexure); (*c*) 3 ft., 10,000 lb. per sq. in.; (*d*) 6 ft., 16,000 lb. per sq. in. The heavy stress at (*c*) is due to other bars being turned up as shear bars. In the case of a steel beam these variations of stress are transmitted through the web. How is it done in the case of a reinforced concrete beam, when the grip between concrete and steel is assumed to be 100 lb. per sq. in. or less?

VULCAN.

"King Closer."

SIR,—Is the term "King Closer" ever applied to a three-quarter brick, *i.e.*, a brick three-quarters the length of a standard brick? Rivington, in his "Notes," calls a "King Closer" a three-quarter brick, but says that it is usual to cut only the angle off. Mitchell gives a sketch, showing one-eighth of the brick cut off; while other authorities, such as Adams

and Brysson Cunningham, show the full quarter of the brick cut away. As, however, a plain

three-quarter bat is so common in English bond, it would appear reasonable to suppose that the term "King Closer" originally embraced this brick as well. The question has arisen in connection with lectures given in building construction, and your opinion (on what, is now accepted as the meaning of the term "King Closer"), will be accepted as authoritative.

W. ABBOTT, B.Sc.

[Perhaps one of our readers may like to express an opinion on the above.—ED.]

Use of Adjoining Wall.

SIR,—A one-story stable has been built between two houses, which we will call A and B. This stable, which belongs to B, has been in existence for about 50 years. The joists are built 4½ in. into A's wall; corbels, &c., being also built into it. B now wishes to turn his house into flats and proposes to build up higher above the stable, so as to contrive a new entrance to the upper floors. Can he make further use of A's wall?

WALL.

Rejected Tender.

SIR,—A is an architect, B is a builder, C is a client. C instructs A to get out plans for a small country house, which he does and invites B to give in a tender. In the meantime C asks some of his builder friends to give in a price; they are higher and unwilling to do the work at B's price, but prevail on the client to shelve his architect and to have another, and also to turn down B's tender for the work. Can B recover in law the scale rate for a successful tender, say 1½ per cent.? B tendered by invitation and would not demand payment had he lost the job fairly, but he *never* had a fair chance to have the job, and was put to a great deal of work unnecessarily.

OXONIAN.

Cement and Lime Plasters.

SIR,—I should be very interested if any of your correspondents could explain why it is that, although a satisfactory lime stucco finish can be applied to a cement backing, a cement finish will not adhere to a lime and hair backing. The first I know from practice to be the case; while the second I take as a generally accepted opinion in building practice, though I know of no cases in which it has been tried.

INTERESTED.

Monolithic Construction.

SIR,—In the series of articles on reinforced concrete work in your journal, I have noticed illustrated and described many instances in which floors loaded by many times their allowed weight having stood the experience without hurt, and of cases where perhaps an entire pier has been inadvertently removed, and the supported floor has doubled its free span without sign of failure. The instances have been quoted as a virtue of the system of construction, but to my own mind they have opened up grave doubts as to whether, at a time when the high cost of building is seriously crippling the industry, we are not paying for a great excess of material in most buildings, merely to guard against the million to one chance, so to speak. Can any of your readers of greater experience in structural engineering, inform me whether a substantial reduction in the rate of factor of safety would seriously imperil the life of the average building? If a little caution might be safely removed and public authorities could be persuaded to allow it, surely many million pounds' worth of work in the course of the year might be saved for use in further extended schemes.

MDXXXVI.

Contract Documents.

SIR,—I was rather surprised to read a letter from "Reader" in a recent issue, describing a ruling of the R.I.B.A. Practice Standing Committee against a formal tender and acceptance forming a good contract. I notice, however, that in the Correspondence column of your last issue there is a letter from the Hon. Sec. of the above committee that seems to indicate that this ruling quoted was of a particular nature, but that in an ordinary case a reverse ruling would be the case. Am I right in so interpreting this letter?

QUERY.

Concrete Houses.

SIR,—Many years ago, when I was sitting for the R.I.B.A. Final, we were set a question in which the problem was to suggest the procedure in building a house on a site of difficult access in which lime and aggregate were obtainable in plenty, but no building stone or brick. In the oral, the examiner disclosed the methods he had intended to draw from the candidate, and these were that the mould of each wall of the house should be excavated on the ground adjoining their several positions and filled in with concrete from the materials on the site, and that the walls should then be erected in their vertical positions when the concrete was thoroughly set. Is there anything in this method, and has it been tried anywhere with success? At a time when many new methods of construction are being tested, it would seem suitable to experiment with yet another, if there is anything in it. The opinions of your readers would be instructive.

OLD CANDIDATE.

Factory Flooring.

SIR,—We have been requested to lay on an existing granolithic floor (which has worn rather badly, due to continuous traffic of small steel trolleys) a layer of material not exceeding ¾ in. in thickness, which must have a harder wearing surface than the existing paving. We shall be glad to know whether you can suggest a suitable material (similar in effect to powdered carborundum), which can safely be mixed with cement and sand for rendering the existing floor to obtain the desired surface.

M. G. & SON.

THE BUILDING TRADE

SOME OBSERVATIONS ON WORKMEN'S COMPENSATION.—III

(IN CONNECTION WITH THE AMENDING ACT, 1923).

SINCE the first two articles of this series have appeared the consolidating Bill has passed into law and become an Act, but it is not to come into operation until May 1 of this year. As we explained in our first article, we have had the Bill before us when these articles were written, and the new Act will in no way affect any of the observations contained in these articles; but in the rest of the series we propose adding references to the new Act, which we shall refer to as the "Act, 1925," in addition to the references to the principal Act at present in force and the amending Act, 1923, so that when the Act comes into operation our readers may see which portions represent the provisions introduced in 1923, the subject of comment in these articles. The references will be in brackets, thus—(1 (2) Act, 1925)—meaning section 1, sub-section (2) of the Act of 1925.

At the conclusion of our last article we were still considering the effect of the decision and judgments delivered in the case, Davies *v.* Gwauncaegurwen Colliery Company (1924, 2 K.B. 651; *The Builder*, September 26), with reference to section 7 of the amending Act (1 (2) Act, 1925), and we had shown that Lord Justice Warrington had expressed the opinion that the section does not extend to bring within the principal Act acts done in contravention of orders which are merely incidental to the employment, because of the concluding words of the section, which provide that the acts done must be "for the purposes of and in connection with the employer's trade or business." The Master of the Rolls in the same case also dealt with this point. After saying it was doubtful whether it was wise for the Court of Appeal to construe the section generally at such an early stage in its operation, he intimated that in his opinion it was intended to operate in such cases as Bourton *v.* Beauchamp (1920, A.C. 1001; *The Builder*, June 25, 1920), but probably not in such a case as Lancashire and Yorkshire Railway *v.* Highley (1917, A.C. 352; *The Builder*, April 6, 1917).

In Bourton *v.* Beauchamp the workman in the course of his duty did an act which was prohibited by the statutory regulation, made under the Coal Mines Act, 1911; that is to say, he attempted to drill out a shot which had misfired two days previously, and the House of Lords held such an act not within the words of the principal Act (1 (1) Act, 1925), "arising out of and in the course of the employment." Such an act would now, however, be brought again within the ambit of the principal Act, because death or serious and permanent disablement resulted from an act, which, though prohibited, was done "for the purpose of and in connection with the employer's trade or business."

In Lancashire and Yorkshire Railway Company *v.* Highley, the facts were that workmen employed by the Company on the permanent way were ordered to proceed to their place of work by train. In the course of their journey they had to change trains and wait an hour at a station. They decided to breakfast there, and in order to obtain hot water crossed the line, but not by the means provided, a bridge and subway, but across the rails, threading their way through a goods train which they thought was a "dead train." This train started and killed one of the men. On a claim for compensation the House of Lords held that this accident had not arisen out of and in the course of the employment under the principal Act, because the man had added a risk which was unnecessary to the sphere of the employment.

Lord Justice Atkin compared Bourton *v.* Beauchamp with Brise *v.* Edward Lloyd, Ltd. (1909, 2 K.B. 804; *The Builder*, July 31, 1909), a case in which a workman, although a dining room was provided, elected to take his meals on the top of a tank, a place not exactly prohibited but to which he had no right to go, and expressed the opinion that the section would apply to the former case but not to the latter.

It may now further elucidate the points we are considering if we refer to the second decision delivered by the Court of Appeal on this section in Borley *v.* Ockenden, only recently reported in the Law Reports (1925, 2 K.B. 325; *The Builder*, March 27, 1925). In that case the applicant was a lad of seventeen who was employed as "a finisher" of boots, an employment which he was engaged to carry on at his employer's premises. Being anxious to earn higher wages as a "repairer," on some four occasions, with the consent of his employer's manager, he had taken boots home with him for the purpose of repairing them. His employer, hearing of this practice, had forbidden it, and after that neither the employer nor his manager had given the lad any facilities for taking boots home with him.

Nevertheless, the lad had done so, and on April 15, when working on them in his home as a "repairer," he had injured his eye with an awl, in consequence of which the eye had had to be removed. The County Court Judge had found that the employer's business was repairing boots, that the injury was sustained by the applicant whilst repairing boots left by a customer for repair, that the lad's motive was to learn to repair and thus increase his earning power, and although he was disobeying orders, the work was well done and calculated to further the employer in his business, and therefore he came within section 7 (1 (2) Act, 1925) as doing work for the purposes of and in connection with his employer's business. The Court of Appeal reversed this finding, holding that to entitle a workman to come within the categories mentioned in the section numbered (*a*) to (*c*) in Davies's case, he must first show that he came within the principal Act and that the injury arose out of and in the course of his employment: That section 7 of the Act of 1923 must be read in conjunction with section 1, sub-section (1) of the principal Act (1 (1) Act, 1925), and was intended to take away from the employer the three defences mentioned in that section—(*a*) acting in contravention of any statutory or other regulation; (*b*) of any orders given by the employer; or (*c*) acting without instructions: but it was necessary that the injury should arise out of and in the course of the employment, a condition not fulfilled in this case, for the workman was repairing boots by sewing (work he was not employed to do) at a place where he was not employed, and during hours when his employer was not paying him and had no right to his services. Further, the main object of the lad was not to further the interest of his employer, but to advance his own skill. Lord Justice Scrutton observed that he was puzzled by the words "or that he was acting without instructions from his employer" in the section, but reserved any opinion until such a case arose.

It thus appears from the judgments and opinions delivered in these two cases that under section 7 (1 (2) Act, 1925) the prohibited or undirected act to bring the workman within the ambit of the principal Act and entitle him to compensation must be within the sphere of his employment to the extent that the injury, which must result in death or serious and permanent disablement, must have arisen "out of and in the course of the employment" as defined by the principal Act, with, however, this qualification, that an act done against orders or without orders shall not be deemed to take the workman outside the sphere of the employment, provided that that act was done "for the purposes of and in connection with the employer's trade or business," which words have been interpreted in the above cases to mean an act directly furthering the employer's trade or business, but not an act which, though within the sphere of employment, is merely incidental to the actual duties involved by the employment.

The case Borley *v.* Ockenden appears to clear up two of the points raised by Lord Justice Atkin in Davies *v.* Gwauncaegurwen Colliery Company, to which we referred in our second article. He is reported as having observed that under section 7 (1 (2) Act, 1925) no causal connection seemed to be required between the prohibited act and the accident, but if the two Acts are read together, the casual connection as provided by the principal Act is imported into the section.

Secondly, he is reported as having commented on the fact that the section did not provide that the act should be done after the employment had commenced within the ordinary course of employment, and therefore it was consistent with the words of the section that a workman at his own house should be doing an act for the purposes of his employer's trade or business. The later decision in Borley *v.* Ockenden appears to answer this question to a great extent on the finding on the facts of that case, but also by the finding that the two Acts are to be read together as we have shown above. In this connection we may remind our readers that section 31, sub-section (3) of the Act of 1923 expressly provides also: "This Act shall, save as otherwise expressly provided, be construed as one with the principal Act." Under the Act, 1925, the provisions are incorporated in one Act.

Despite the length of the observations we have made on this section, which have been necessitated by the complication of the subject, we cannot leave it without referring to a third case in which its provisions were invoked, Jones *v.* Tarr (1926, 1 K.B. 25; *The Builder*, July 24, 1925), and a decision was given by the Court of Appeal.

A man Jones was employed by Tarr, the owner of one of several very shallow coal pits, to brick in the inset of a shaft. Jones had working with him one Smith and his adopted son Gears. Jones, in the course of his employment, found he had omitted to bring with him a bricking hammer, a tool supplied by his employer, and he sent the other two men to another pit belonging to another owner named Harriman, a deep pit, to bring back a hammer which belonged to his (Jones's) brother. Smith let Gears down this pit, but he became overcome by gas and fell out of the bucket. Smith went to fetch Jones, who hurried to the pit and was lowered down it, but before he could bring up Gears he also was overcome by afterdamp, and both men lost their lives. The claim for compensation was made by Jones's daughter, and the County Court Judge held that Jones, in going to the rescue of Gears, was doing something for his master's business, and although it was outside the sphere of his employment, the emergency brought the case within the Acts which must be read as one.

The Court of Appeal reversed this judgment on the ground that section 7 of the amending Acts (1 (2), 1925) did not apply, because, under the decisions delivered under section 1, sub-section (1) of the principal Act (1 (1), 1925), Jones, for his own purposes, in sending Gears on this mission was acting outside the sphere of his employment and placed both himself and Gears outside the spheres of their

employment; and as to the emergency that had arisen, that also was entirely foreign to the employment, and it could not be said that Jones had left his employment in an emergency to save a fellow-servant, as in Rees *v.* Thomas (1899, 1 Q.B. 1015) and other emergency cases, because at the time of the accident neither he nor Gears were acting within the scope of their employment, and therefore the relationship of fellow-workmen did not exist. It will be seen that the decision follows that is given in Borley *v.* Ockenden (*ubi sup.*), but the Master of the Rolls made one point even clearer. Although the principal Act and the amending Act have to be construed together, he pointed out that section 7 of the latter Act (1 (2), 1925) is ancillary to section 1 of the principal Act (1 (1), 1925), that is to say, section 1 is the primary section, and its conditions must be fulfilled before section 7 of the amending Act can apply.

As regards the cases under section 1, sub-section (1) of the principal Act, we have already in earlier articles referred to these, but the Court in this case specially mentioned Lord Atkinson's judgment in Barnes *v.* Nunnery Colliery Company (1912, A.C. 44; *The Builder*, January 5, 1912) and quoted the following passage from Lord Dunedin's judgment in Plumb *v.* Cobden Flour Mills (1914, A.C. 62): "There are prohibitions which limit the sphere of the employment, and prohibitions which only deal with conduct within the sphere of the employment. A transgression of a prohibition of the latter class leaves the sphere of the employment where it was, and consequently will not prevent the recovery of compensation. A transgression of the former class carries with it the result that the man has gone outside the sphere."

One other observation remains to be made on this case. The Coal Mines Act, 1911, was invoked. Section 110, sub-section (1) provides: "Where provision has been made in pursuance of regulations made under this Act, or under any order which has effect as if made under this Act, for the formation or training of a rescue brigade, any accident caused to a workman employed in or about a mine who is, with the consent of his employer, being trained as a member of the rescue brigade, and arising out of and in the course of his training, shall, for the purposes of the Workmen's Compensation Act, 1906, be deemed to arise out of and in the course of his employment in the mine."

Sub-section (2) is: "Any workman engaged in any rescue or ambulance work at a mine shall for the purposes of the Workmen's Compensation Act, 1906, be deemed while so engaged to be employed by the owner of the mine."

Subsection (2) was considered in Jones *v.* Tarr, but was held to have no application, because the accident happened not in the mine of the respondent owner but in a mine under different ownership.

In the consolidating Bill this latter subsection is drafted in less general terms, the words "at any such mine" being substituted for "a mine," and in the Bill it is proposed to repeal section 110 of the Coal Mines Act. This change in wording would appear to restrict the operation of sub-section (2) to mines where regulations or orders have been made for the formation of rescue brigades. Before the Bill becomes law the attention of the Legislature is required to this point. Since this note was written this section has been incorporated in section 34, Act, 1925, and the repeal is effected in the Fourth Schedule; the words "at any such mine' are retained in subsection (2).

Letchworth Garden City.

England's first garden city at Letchworth comes of age this year, and in order to celebrate the event a joint committee, consisting of representatives from the Letchworth Urban District Council, First Garden City, Ltd., and the Garden Cities and Town-Planning Association, are organising a civic week.

DILAPIDATIONS AND WASTE—III

By W. T. CRESWELL, Lic.R.I.B.A.

Associate (late Fellow) Surveyors' Institution; F.R.S.I.; Barrister-at-Law.

REPAIR BY LANDLORD WHERE NO STIPULATION (II).

In Respect to Easements.

An easement is an incorporeal hereditament, conferring the right of using another's land in a specific way, and without taking anything from it. The person subject to the easement is called the servient owner, and, in the case of a lease of premises when an easement is granted to the dominant owner over other premises than those included in the demise, he, as lessor, is, in general, under no implied obligation to repair the easement or the premises over which the easement is granted. Even though the lessor has bound himself to repair, in Taylor *v.* Whitehead (1781), 2 Doug. 745, it was held that he who has the use of the easement ought to repair it.

The dominant owner may, however, enter the servient tenement to carry out repairs, in order that he may have the full enjoyment of the easement.

In Pomfret *v.* Ricroft (1669), 1 Wms. Saund. 557, 1871 ed., a house was demised with the use of a pump; it was held that the lessee might repair the pump, but could not maintain an action against the lessor for not repairing it.

In Ivay *v.* Hedges (1882), 9 Q.B.D. 80, a house was let out in tenements, and the occupier had a licence to use the roof as a drying ground. It was not really necessary for the use of the tenants, but was merely an additional convenience to them. It was held that the landlord was not liable for defects, and under no obligation to fence the roof or keep defective fencing thereto in repair; and that it makes no difference that the want of repair was known to the landlord.

Liability in Respect to Warranty.

There is no implied warranty by the landlord on the letting of real estate that it is reasonably fit for habitation or occupation, but if a landlord on or before making a lease warrants the premises as being fit for habitation as regards repair or drainage, he is bound by the warranty; and inasmuch as the warranty is both a warranty and condition, the tenant can, on breach of it, claim damages, and, within a reasonable time, repudiate the lease. The warranty may be by express contract or may be implied by representation as to fitness of the premises. (See De Lassalle *v.* Guildford [1901], 2 K.B. 215 C.A.)

In Bunn *v.* Harrison (1886), 3 T.L.R. 146, C.A., the landlord had stated that the sanitary arrangements of the premises were perfect. Lord Esher, M.R., said: "Where a statement was made at the time of a verbal contract, and for the purpose of the contract, that statement must be taken to be part of the contract. Here the plaintiff stated that the house was in a perfect sanitary condition. Not only was there a warranty ordinarily so called, but also a warranty which went to the whole root of the contract. There was a condition and a warranty. The condition upon which the defendant took the house was broken, and she was not bound to pay the rent, as she did not take to the house and left it within a reasonable time. There was also a breach of warranty upon which she could recover damages."

Liability in Respect of a Public Nuisance.

If premises are in want of repair at the time of the letting, or the landlord has covenanted to do repairs, and the want of repair arises during the letting, and the premises constitute a nuisance to the public, and a person, a member of the public, is injured in passing, then the landlord is liable for the injury provided he had notice of the defect. The tenant as occupier is held primarily liable for the injury, but he can shift his liability on to the landlord in the above circumstances. If, however, the premises were out of repair at the time of the letting, or the want of repair arises during the tenancy and the tenant is under a covenant to repair, then the landlord is not, it appears, liable for that injury, unless he has expressly licensed the tenant to do acts amounting to a nuisance.

In short, there are only two ways in which a landlord can be made liable for injury to a passing stranger caused by the external defects of premises let to a tenant:—(1) When he has contracted with the tenant to repair; (2) when he has let the premises in a ruinous and improper state and was aware of their condition.

Liability in Respect to Third Parties, &c.

If at any time during the term of the lease the landlord is held liable for injury, owing to his breach of an express contract to repair the interior of the premises, the liability (unless the defect amounts to a nuisance) does not extend to the tenant's family, guests, licencees, customers or workmen; for there can be no liability to any person to whom the landlord does not owe a duty. Only the tenant can sue on the contract between him and the landlord.

In Robbins *v.* Jones (1863), 33 L.J.C.P. 1, it was held that a landlord who lets a house in a dangerous state is not liable to the tenant's customers or guests for accidents happening in consequence during the term.

In Cavalier *v.* Pope (1906), A.C. 428, the landlord had promised to repair the premises, and the tenant's wife sustained damage from a dangerous defect in the premises. It was held that she could not recover on the contract or in tort, since she was not a party to the contract. Robbins *v.* Jones (*supra*) was quoted and approved in this case.

In Lane *v.* Cox (1897), 1 Q.B. 415, a workman went upon premises in the occupation of, and at the request of, the tenant, to move some furniture. He was injured by a defective staircase. The landlord was held not liable. But in Mellon *v.* Henderson (1913), 50 Sc. L.R. 708, a landlord was held liable for an accident happening on a common staircase under his control leading to an upper flat. In M'Ilwaine *v.* Stewart's Trustees (1914), S.C. 934, a customer who was injured by the defective condition of some outside stairs giving access to a shop was unsuccessful in his action for damages. These two last cases were Scottish cases.

As to a landlord not being liable for injury in respect to third persons, see also Cameron *v.* Young (1908), A.C. 176, and Bromley *v.* Marcer (1922), 2 K.B. 126.

In Respect to Licencees.

A licencee of premises has not exclusive possession of the premises licensed to him. He is in the position of a guest. The grantor of the licence is only liable to the licencee for a latent danger that he knew of, and the licencee did not; but, if the condition of the premises in which the danger lurked were patent to the licencee, then the grantor would not be liable.

In Respect to Trespassers.

An owner or occupier is not liable to a trespasser for the safe condition of the premises the latter trespasses upon; and, if the trespass is into the house, the occupier can lay a man-trap or spring-gun for the trespasser; but he must not lay a trap, or place a secret danger, to injure the trespasser, if he knows who the trespasser is.

Landlord's Liability in Respect to Flats, Chambers and Lettings of Portions of a Building, &c.

In law flats, chambers and portions of buildings let separately, and self-contained, and with separate entrances thereto opening on to a common staircase, are in all respects separate houses. The owner of each flat is entitled to vertical support from the lower part of the building; and included in the letting of each flat are the outer walls of the flat. Where a portion of a building is let separately there is no obligation on the part of the landlord to keep any of the

other portions of the building in repair, except such parts as remain under his own control, and which it is necessary should be repaired for the use and enjoyment of the premises demised. But, in the absence of an express contract on the part of the landlord to do or provide certain things that he has not done, then, in general, he is not liable to his tenants or their licencees for injuries, unless such injuries are the result of something in the form of a trap or concealed danger. The decisions in the cases are somewhat conflicting. In Miller *v.* Handcock (1893), 2 Q.B., 177, it was held that where a staircase is the only means of access to a flat, and the landlord retains his control of it, then he is bound to keep the staircase in repair and reasonably safe, and is liable for injury both to the tenant and to those having occasion to visit the latter. This case was decided on its own particular facts. In Huggett *v.* Miers (1908), 2 K.B. 278, it was held that the principle of Miller *v.* Handcock (*supra*) could not be extended to imply a duty on the part of the landlord to light the staircase. And this, too, even when the landlord has contracted with the tenant to light the stairs. (See Lewis *v.* Ronald [1909], 101 L.T. 534).

The case of Miller *v.* Handcock (*supra*) has been overruled, and cannot be relied upon unless it can be shown that the injuries resulted from a trap or concealed danger. (See Fairman *v.* Perpetual Investment Building Society [1923], A.C. 74.)

It is of use to look at other cases in this connection. In Hart *v.* Rogers (1916), 1 K.B. 646, a landlord let a tenant a flat on the top floor of a building, but retained possession and control of the roof. Water found its way through the roof into the flat, and the landlord was held liable to repair and bound to use reasonable care in keeping the roof secure. In Blake *v.* Wolff (1898), 2 Q.B. 426, a landlord of premises let out in flats retained for his own use an upper floor in which was a cistern. The same cistern supplied water to a tenant on a lower floor; and a leakage occurring in the cistern, the tenant's goods were damaged. It was held there was no wilful default or neglect on the part of the landlord, and that he was, therefore, not liable for the damages.

In Lucy *v.* Bawden (1914), 2 K.B. 318, steps leading up to a house were insufficiently fenced; both the plaintiff and the defendant knew of the existence of the defect. Held, no action lay against the landlord.

In Dobson *v.* Horsley (1915), 1 K.B. 634, there were outside steps protected by railings on either side of an area which were in the possession and control of the landlord. One of the bars of the railing was missing, and an infant fell through the aperture and was injured. It was held that the absence of the railing was not in the nature of a trap or concealed danger, and that the landlord was not liable.

In Groves *v.* Western Mansions (1916), 33 T.L.R. 76, there was a defective staircase which the evidence showed the plaintiff was perfectly well acquainted with. It was held there was nothing in the nature of a concealed trap.

In Dunster *v.* Hollis (1918), 2 K.B. 795, where there were some steps that were old and inconvenient, Lush, J., was of opinion that there is an implied contractual obligation on the part of the landlord towards the tenant, to take care to keep the steps in a reasonably safe condition, and, apart from contributory negligence, the fact that a defect is visible is no answer to the tenant's claim. But he added that if it was necessary for the plaintiff to prove a concealed trap he had done so.

Nevertheless in these cases as the law now stands and as above stated the landlord is liable only when he neglects his duty to avoid a trap or concealed danger.

S.E. London's Proposed Tube.

The Camberwell Borough Council state that the inquiry will be held by the London and Home Counties Traffic Advisory Committee into the question of the provision of Tube railways for the South-East London District about the end of the present month.

GREATER LONDON HOUSING CAMPAIGN

II.—LOCAL AUTHORITIES' PROGRESS IN 1925.

By J. P. ORR.

FOR the purposes of the Minister of Health's housing statistics, the whole area of England and Wales is divided into 11 Regions. Region K comprises the London area, and is very nearly the same as the Metropolitan Police District. It extends to about 15 miles from Charing Cross; its area is about 700 square miles, and its population about 7¼ millions. The best-known districts that are just included within its boundary-line are:—

In Middlesex—Staines, Uxbridge, Edgware and Enfield.

In Herts—Watford, Barnet and Hatfield.

In Essex—Waltham Cross, Epping and Enfield.

In Kent—Dartford, Bexley and Bromley.

In Surrey—Purley, Epsom and Esher.

2. There are no less than 126 housing authorities in Greater London, namely, the City Corporation, the London County Council, and the Councils of 5 other Counties, 28 Metropolitan Boroughs, 3 County Boroughs, 8 other Boroughs, 67 Urban Districts, and 13 Rural Districts. The City Corporation and the L.C.C. can build anywhere; but the other authorities are limited to their respective areas. They are located as follows:—28 in London County, 38 in Middlesex, 9 in Herts, 17 in Essex, 12 in Kent, and 20 in Surrey.

3. By March 31, 1924, the local authorities of England and Wales had between them completed since the war some 169,000 subsidised dwellings, including 28,300 (17 per cent. of the whole) in Greater London. In the next year, 1924–5, about 20,000 more dwellings were completed; but London's contribution fell from 17 to 13 per cent. (2,676). Progress then became much more rapid, and the output of the half-year to September 30, 1925, nearly reached the 20,000 of the full year, 1924–5; yet, in spite of this improvement, the combined output of the 126 London authorities in the 18 months to September, 1925, viz., 5,079 dwellings, was actually 100 short of the output of the L.C.C. alone for the preceding twelve months, 1923–4. London's share of this second 20,000 was only 12 per cent., viz., 2,403—107 under Dr. Addison's Act of 1919, 1,564 under Mr. Chamberlain's Act of 1923, and 732 under Mr. Wheatley's Act of 1924. Only 38 of the 126 London housing authorities contributed to this share; 88 contributed nothing, though 10 of them had 364 houses a-building on September 30.

4. The 107 Addison dwellings represent belated items in the 1919 programme, and consist of 56 in tenement-blocks in Chelsea, 20 in Shoreditch, 24 in Tottenham and 7 in the L.C.C. Estate in Ilford. The Chelsea rents are 26s. to 28s. 9d. per week for three-roomers and 32s. 8d. to 35s. 3d. for four-roomers—far beyond the reach of families whose earnings fall short of £6 per week. So these Chelsea flats have effected nothing towards solution of the real London housing problem. The other three groups of Addison houses are too small to do more than very slightly ease purely local stringency.

5. Of the 1,564 Chamberlain dwellings, 747 were contributed by the L.C.C., 137 by Enfield, 72 by Greenwich, and 608 by 22 only of the other 123 London housing authorities. The L.C.C. dwellings are all in Dagenham, some eleven miles' journey from Fenchurch-street on the Great Eastern Railway—too far away to benefit materially any but the Eastern boroughs of London County. The bulk of them are three-roomers let at weekly rents from 12s. 11d. to 15s. 1d., and four-roomers let at 14s. 4d. to 19s. 9d. The Enfield rents are comparatively low, viz., 11s. for four-roomers and 15s. 6d. for five-roomers, and the Greenwich rents are 13s., 16s., and 18s. for two-, three-, and four-roomers respectively. The only other authorities whose contribution exceeds 50 dwellings are, in London County, Kensington, with 53 let at 17s. and 17s. 6d. for three-roomers, 20s. 6d. for four-roomers, and 25s. 6d. for five-roomers, and Wandsworth, with 52 let at rents from 16s. 4d. to 17s. (all four-roomers), and, outside London County, Hornsey with 61 let at 14s. 6d., 16s. 6d. and 18s. 6d.

Since the loss on each local scheme, apart from the State subsidy of £6 per house per annum for 20 years, falls on the local rates, no local authority is likely to accept tenants from outside its own area; so the relief afforded by the half-year's operations under the 1923 Act to the congested boroughs of central London must be quite negligible.

6. It is, unfortunately, just the same with the operations under the 1924 Act, with their total output of 732 dwellings in the half-year. Here, again, the main contribution stands to the credit of the L.C.C., who completed 241 houses on their Downham Estate in Lewisham. The only other contributions of over 50 houses were Dartford 94, Woolwich 85, and Kingston 62. The remaining 250 houses were contributed by 10 only of the other 122 London housing authorities. The Downham Estate is on the south-east border of London County and therefore is of little use to boroughs north of the Thames. The smaller groups of Wheatley houses leave the main London housing problem unaffected.

7. It is instructive to study the rents of these Wheatley houses, since the main object of the 1924 Act was to bring rents down, so that the new houses might be within reach of the bulk of the sufferers from bad housing who find the rents of Chamberlain houses far beyond what they can afford.

The bulk of the L.C.C. houses at Downham are of the four-room type and are let at rents varying from 14s. 3d. to 17s. 6d. per week. The rents of four-roomed Addison houses on the neighbouring L.C.C. estate at Bellingham run from 18s. 10d. to 21s. The Wheatley houses are therefore available for families considerably poorer than the poorest of those who can afford the Bellingham rents. In Woolwich four-roomed Wheatley houses are let at 14s., and in Poplar they are let at 15s., and in Kingston at 13s. There must be hundreds of families seeking relief from serious overcrowding and other bad housing conditions, whose weekly incomes fall short of £3 10s., and who therefore cannot afford even these Wheatley houses. The field of relief could be extended so as to take many of them in, if only these houses could be made self-supporting with the aid of the statutory subsidy of £13 10s. per house per annum for 40 years, at an average rent of 10s. per week, as originally contemplated by Mr. Wheatley; but this large reduction of rent connotes a commensurate reduction in cost of construction, and/or of capital, which, for reasons given in Article I, is not at all likely to be achieved in the near future in London.

It seems clear, then, that the London housing campaign has not yet brought and is not likely for a long time yet to bring relief from bad housing to those most in need of it. It will be interesting to review the situation at the end of March, 1925, and see how far the prospects of the Greater London Housing Campaign have been improved by progress achieved in the last half-year.

Engineering Abstracts.

The Institution of Civil Engineers, of Great George-street, Westminster, S.W. 1, has sent us a book of engineering abstracts prepared from the current periodical literature of engineering and applied science. The subjects dealt with in this number are as follows: (1) Measurement, and Measuring- and Recording-Instruments; (2) Engineering Materials; (3) Structures; (4) Transformation, Transmission, and Distribution of Energy; (5) Mechanical Processes, Appliances, and Apparatus; and (6) Specialised Engineering Practice.

NEW BUILDINGS IN LONDON

Acton.—A large estate adjoining the Underground Station is being developed for residential purposes. Over 400 houses are to be erected, each containing two public rooms, four bedrooms, offices, etc., and a garage. Mr. J. Weller, builder, Sutherland-grove, Southfields, S.W. Messrs. Douglas Smith & Barley, architects, 50, Queen Anne's-gate, S.W.1.

Aldersgate-street.—Excavations for foundations for a large warehouse in Aldersgate-street, E.C.1, are being carried out. Messrs. F. & H. F. Higgs, Ltd., builders, Station Works, Hinton-road, Herne Hill, S.E. Mr. Frank Selby, architect, 44, Chancery-lane, W.C.2.

Barnes.—Mr. R. B. Rowell, A.R.I.B.A., architect, 5, The Triangle, Upper Richmond-road, Mortlake, S.W., has prepared plans for a row of new shops in Lower Richmond-road, S.W. Messrs. G. F. Bates & Son, builders, 87, The Avenue, Mortlake, S.W.

Becontree.—A school for 1,050 scholars, built on the bungalow principle, is to be erected on the L.C.C. Housing Estate, at a cost of £30,000, to the plans of Mr. Jno. Stuart, F.R.I.B.A., Old Court, Springfield, Chelmsford.

Bushey.—Plans, specifications and quantities are in progress of preparation prior to the placing of the contract for the building of the large school and institution proposed by the Royal Masonic Institution for Boys, Great Queen-street, Kingsway, W.C. The cost is estimated at £250,000. Messrs. Davis & Emanuel and Henry C. Smart, architects, 73A, Queen Victoria-street, E.C.4. Mr. Walter Lawrence, F.S.I., quantity surveyor, 13, Hart-street, W.C.1. Messrs. Albion T. Snell & Partners, consulting engineers, 5, Laurence Pountney-hill, E.C.4.

Croydon.—A start has been made upon the first section of the additions to the Croydon General Hospital, the total scheme of which is expected to involve approximately £250,000. Messrs. Higgs & Hill, Ltd., builders, Crown Works, South Lambeth-road, S.W. Messrs. Henry Berney & Son, architects, High-street, Croydon.

Edgware-road.—The Grand Cinema Co., Ltd., Oxford-street, W.1, are to enlarge their Grand Cinema Theatre at 289-290, Edgware-road, W.2, to provide seating accommodation for about 2,000 people. Mr. James **Watts,** builder, Bromley-road, Catford, S.E.6. Mr. E. A. Stone, F.S.I., architect, 20, Berkeley-street, W.1.

Fleet-street.—Messrs. Walter Lawrence & Son, Ltd., builders, Finsbury-square, E.C.2, are excavating the centre site in New Street-square, E.C.4, for foundations for a large warehouse to be erected for Messrs. Wyman & Sons, Ltd., printers, Fetter-lane, E.C.4. Messrs. Brown & Barrow, architects, Lennox House, Norfolk-street, Strand, W.C.

Greenwich.—Funds are being raised by the Committee of the Miller General Hospital for South-East London, in Greenwich-road, S.E.10, to build a new ward block, etc. It is also proposed to build a nurses' home if sufficient funds are available. Messrs. William A. Pite, Son & Fairweather, architects, 12, Carteret-street, Westminster, S.W. Mr. W. J. Falkner, quantity surveyor, 12, Carteret-street, S.W.

Hampstead.—Additions, consisting of new accommodation for the staff, are to be built at the North-Western Fever Hospital in Lawn-road, N.W.3, for the Metropolitan Asylums Board, Victoria-embankment, E.C.4.

Haymarket.—Foundations are being put in, preparatory to the erection of the superstructure of the new "Carlton Theatre" at Nos. 62-65, Haymarket, S.W.1. Accommodation will be provided for 1,200 at a cost of £160,000. Messrs. Arthur Vigor, Ltd., builders, Knightsbridge, S.W.1. Messrs. H. J. Greenham, Ltd., excavators, Worton-road, Isleworth, Middlesex. Mr. Frank T. Verity, F.R.I.B.A., architect, 7, Sackville-street, W.1.

Holborn.—An early start is, it is understood, to be made upon the extensive enlargement of the Royal Free Hospital in Gray's Inn-road, W.C.1. Plans for a new wing for child patients, to cost approximately £50,000, have been prepared by Messrs. H. V. Ashley & Winton Newman, FF.R.I.B.A., 14, Gray's Inn-square, W.C.1.

Ilford.—A housing scheme, embracing 31 houses in Gordon-road, is to be carried out by Messrs. British Builders, Ltd., Gordon-road, Ilford.

Kensington.—A building lease is to be arranged for the development of the site adjoining Lowther Lodge, Exhibition-road, W.8, covering about 40,800 sq. ft., and flats, houses or an institution will be erected, upon which, under the terms of the agreement, at least £150,000 must be spent. Messrs. H. & R. L. Lobb, surveyors, Charles-street, St. James's, S.W.1.

Kilburn.—Plans have been approved for a large building at Nos. 307, 309 and 311, Kilburn High-street, N.W., to provide local showrooms, offices and stores for the Gas, Light and Coke Co., Ltd., Horseferry-road, S.W.1. Mr. H. Austen Hall, F.R.I.B.A., architect, 8, Old Jewry, E.C.2.

Kingston-on-Thames.—Tenders are to be shortly invited for the building and equipment of the proposed nurses' hostel, etc., at the Board of Guardians' Infirmary. Plans by Mr. F. Danby-Smith, Parliament-mansions, Victoria-street, S.W.1. Approximately £80,000 is involved.

Marylebone.—A block of residential flats is being erected in the vicinity of Baker-street, W.2, to plans prepared by Messrs. Burdwood & Mitchell, architects, 80, George-street, Portman-square, W.1. Messrs. Hammond & Barr, Ltd., builders, 52, Beecham-place, S.W.3.

Moorgate.—New premises are being built at Moorgate, E.C.2, as head offices for the Ocean Accident and Guarantee Corporation, Ltd., consisting of a building of six floors. Messrs. Leslie & Co., Ltd., builders, Kensington-square, S.W. Sir Aston Webb, P.-P.R.A., and Mr. Maurice E. Webb, F.R.I.B.A., architects, 19, Queen Anne's-gate, Westminster, S.W.1.

Norwood.—An early start is to be made with the erection of the new school buildings on a site at Tulse Hill, S.W., for the Governors of the St. Martin's High School for Girls. The L.C.C. is to contribute £42,500, and plans are being prepared by Mr. G. Topham Forrest, F.R.I.B.A., the L.C.C. architect.

Piccadilly-circus.—Demolition work is to commence in the near future on the remaining portion of the old premises of Messrs. Swan & Edgar, Ltd., drapers, and rebuilding will follow immediately. Messrs. Higgs & Hill, Ltd., builders, Crown Works, South Lambeth-road, S.E. Messrs. Moreland, Hayne & Co., Ltd., steelwork, 80, Goswell-road, E.C.1. Mr. J. J. Joass, F.R.I.B.A., architect, 10, Old Burlington-street, W.1. Mr. Ernest R. Babb, quantity surveyor, 10, Old Burlington-street, W.1.

Poplar.—Plans have been approved for a new church school in Grundy-street, E., accommodating 300 children, at a cost of about £15,000. Mr. T. H. B. Scott, F.R.I.B.A., architect, 12, Finsbury-square, E.C.2.

Poultry.—Foundations are now being put in for the first section of the headquarters for the Midland Bank, Ltd., which are to cost £500,000. The following contracts have so far been placed:—Messrs. Rice & Son, builders, 15, Stockwell-road, S.W.9; Messrs. Redpath, Brown & Co., Ltd., steelwork, 3, Laurence Pountney-hill, E.C.4; Messrs. B. Goodman, Ltd., 88, Haggerston-road, N., excavation; Messrs. Le Grand, Sutcliffe & Gell, Ltd., The Green, Southall, artesian well; Messrs. Stitson, White & Co., 102, Victoria-street, S.W.1, drainage, plumbing and hot-water installation. Associated architects, Messrs. J. A. Gotch & Saunders, 9, St. Mildred's-court, Poultry, E.C.2, and Sir Edwin Lutyens, R.A., 17, Queen Anne's-gate, S.W.1. Building managers, Messrs. Holland & Hannen & Cubitt, Ltd., 256, Gray's Inn-road, W.C.1. Mr. H. M. Wicksteed, quantity surveyor, 9, St. Mildred's-court, Poultry, E.C.2.

Regent-street.—It is anticipated that a further section of the £400,000 rebuilding plans for the new Café Royal in Regent-street, W.1, and Glasshouse-street, W.1, will be put into execution shortly. The first section is being completed by Messrs. Trollope & Colls, Ltd., builders, 5, Coleman-street, E.C.2. Messrs. Moreland, Hayne & Co., Ltd., steelwork, 80, Goswell-road, E.C.1. Messrs. Henry Tanner, architects, 3, Hanover-square, W.1. Sir Reginald Blomfield, R.A., architect for elevation, New-court, Temple, E.C.4.

Reigate.—It is proposed to provide additional accommodation at the Reigate Boys' Grammar School, at a cost of about £7,800. The architects to the Surrey Education Committee are Messrs. Jarvis & Richards, 60, Tufton-street, Westminster, S.W.1.

Victoria-embankment.—It is proposed to rebuild Charing Cross Underground Station, S.W.1, and to provide a large superstructure flanked on either side by an arcade of shops. Mr. Stanley A. Heaps, architect to Electric and Underground Railways of London, Ltd., Electric Railway House, Broadway, Westminster, S.W.

Welwyn.—Welwyn Garden City, Ltd., propose to build public buildings, a hotel, cinema, offices and flats, etc., at Central Parkway and Howardgate, to plans of Mr. Louis de Soissons, F.R.I.B.A., the Welwyn Garden City Estate architect.

Willesden.—A large factory, in reinforced concrete and steel, is to be erected in Whitley-avenue, Park Royal, N.W.10, for the Indestructible Paint Co., Ltd. Messrs. Walter Bridges & Partners, consulting engineers, 37, Parliament-street, Westminster, S.W.

HOUSES AND THE BUILDING INDUSTRY

REPLYING to Mr. E. J. Brown's letter to the *Times* on "Steel Houses," the substance of which we gave in our last issue, Sir Ernest Benn writes: "Nobody has any desire to upset 'agreements which have taken years to establish at great cost,' if they are agreements which admit the possibility of providing the houses we require. But Mr. Brown's mind is so full of masters and men that there is no room in it for the public and its needs. After 'years of work' and at 'great cost' he appears to have produced a condition of affairs which is highly satisfactory to a small 'ring' of masters and men, but which offers no prospect of the houses we want. We have bought a sort of peace in the building industry at the price of the perpetuation of the slums.

"The patience of the public in face of this scandal is really amazing. If Mr. Brown and his agreements and monopolies are to stand, then we are confronted with a definite and final limitation to the production of houses. If Parliament voted the whole of the Budget to houses, the money would go straight into the pockets of Mr. Brown and his friends, without any appreciable addition to the housing supply. The housing shortage is not due to the 'failure' of capitalism, but to the 'triumph' of socialistic monopoly."

Mr. Ernest Brown, replying to this letter, says: "If reference is made to my letter, it will be seen that I stated how the building industry could and would give all the necessary assistance to the Government towards the provision of houses, and I will make a definite statement. Provided exactly similar terms and conditions are offered as have been offered to Messrs. Weir, this association, covering the London area, through one or more of its members, will provide 1,000 houses of approved alternative construction, employing only building trade labour throughout, for the same price,

and enabling the houses to be let at the same rentals, as those of Messrs. Weir.

"I can pass over Sir Ernest Benn's amusing suggestion as to the money, if provided by the Government, finding its way 'into the pockets of Mr. Brown and his friends' by simply remarking that no Government or other funds can ever find their way into my pockets from such a source, it not being a part of my work to build houses.

"I should like to tell Sir Ernest Benn that employers in this industry do not call themselves 'masters.' As in Sir Ernest Benn's own industry, the day when that appellation was used has long since passed, the boot being often on the other leg, and the term is Sir Ernest Benn's own; and the 'small ring,' numbering somewhere about 14,000 employers, only exists in the minds of Sir Ernest Benn and others, who should be very easily relieved of any such suspicion by merely looking at lists of tenders which appear every week in the trade journals."

In the course of a further letter, Sir Ernest Benn writes:—

"We have had too much politics and too little arithmetic in this housing question. The Ministry of Labour tells me that the numbers of bricklayers insured with them in July, 1923, 1924 and 1925 were 56,260, 56,530 and 64,260 respectively. For the same dates the numbers of plasterers were 15,760, 15,860 and 17,490. Masons and others follow much the same proportions. The official *Labour Gazette* says:—'The number of insured skilled workpeople in building trades has varied only slightly between 1922 and 1925.' Mr. Brown will no doubt correct me if I am wrong in thinking that bricklayers and plasterers are pivotal men in his industry, and if it would be unfair to assume that the productive capacity of the building trade can be gauged roughly by the numbers of such men. It seems to me that the amount of building done in 1924 must have been the same as in 1923, and that 1925 was 12½ per cent. better. Nothing else can have happened; the supply cannot exceed the capacity of these men to produce. The price of houses has gone up and down as political pressure has been more or less, but the supply remains almost stationary.

"The master builders have made agreements with these bricklayers and plasterers and others confirming and strengthening their monopoly, and thus completing the ring that puts a definite limit to the number of houses which can be produced. For Mr. Brown to talk of giving 'all the necessary assistance to the Government' or to offer to provide '1,000 houses' if 'terms and conditions' are arranged is the most utter rubbish. The limited number of bricklayers with whom he has made agreements will lay just as many bricks as they have always laid, no less and no more, and the number of houses which they will supply will not vary, whatever Governments may do. Dr. Addison doubled the price, Mr. Bonar Law halved it, and Mr. Neville Chamberlain has added £70 per cottage, but none of them has made any real difference to the actual building done.

"I am a believer in trade unions, and have given many years to promoting agreements between employers and employed, and I fully appreciate the value of Mr. Brown's work in this respect in the building trades. He and his plasterers are quite entitled to organise and to state their terms and to get them so long as the public will pay. But it is quite another matter when they try to use their powers to stop other sources of supply. We have been offered wooden houses, concrete houses, and now steel houses, and every time the interests which Mr. Brown represents have blocked the way. These builders are not even good judges of their own interests; they are too short-sighted. All the alternative methods, however vigorously applied, would not cause a single brick less to be laid. In our climate we are never likely to give up the brick house; we only ask permission to live somewhere till Mr. Brown's agreements can deliver the goods."

RATES OF WAGES IN THE BUILDING TRADE

Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.

	Masons.	Brick-layers.	C'rp'ters. Joiners.	Plas-terers.	Slaters.	Plum-bers.	Painters.	Lab'rers.
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bath	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Birkenhead	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dudley	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
E. Glam. (Mon. Vall.)	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Eastbourne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Exeter	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/2½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Grays	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Guildford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hereford	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leamington Spa	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Liverpool	1/9	1/9	1/8½	1/9	1/9	1/9	1/8½	1/4
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
London { 12 m. radius	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/4½
London { 12-15 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rugby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
St. Albans	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stroud	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5	1/1½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swindon	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Taunton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Walsall	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
York	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½

(For rates of wages in the Building Trade in Scotland, see page 174.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

JANUARY 25.—**Cardiff.**—PAINTING.—Painting external wood, stone, and iron work of portions of the City Mental Hospital. Clerk and Steward of the Mental Hospital.

JANUARY 25.—**Chelmsford.**—COTTAGES.—For (1) 12 cottages at Great Baddow housing site, together with the construction of a length of new road (195 yards in length), and the required drainage and excavation for water main; (2) eight cottages at Boreham; (3) four cottages at Chignall (Gray's Lodge site), for the R.D.C. James Dewhurst, Engineer and Surveyor, Council Offices, Waterloo-lane, Chelmsford.

JANUARY 25. — **Chiswick.** — FLATS.—Erection of a block of 24 adjoining Belmont-road, for the U.D.C. Edward Willis, F.S.I., M.Inst.C.E., Architect, Town Hall. Deposit £3 3s.

JANUARY 25.—**Cupar.**—HOUSES.—Twenty houses, Westport site, for the T.C. C. R. Douglas, F.F.S., Surveyor, Church-square, St. Andrews. Deposit £1 1s.

JANUARY 25.—**Durham.**—HOUSES.—14 houses in blocks of two and four on the Whinny Hill site, for the City Council. J. W. Green, City Engineer and Surveyor. Deposit £2 2s.

JANUARY 25.—**Glasgow.**—WORKS.—Works required in connection with the new buildings in Trongate:—1, painter work, and 2, electric lighting installation, for the T.C. J. Lindsay, Town Clerk.

JANUARY 25.—**Kingston-upon-Thames.**—ADDITIONS.—To the Grammar School, for the T.C. Jarvis & Richards, architects, 60, Tufton-street, Westminster, S.W. 1. Deposit £2 2s.

JANUARY 25. — **London.** — FLATS. — Erection of a block of flats, containing 104 tenements, at Wenlock-road, City-road, Shoreditch, for the Corporation. City Engineer, Guildhall, E.C. 2. Deposit £2 2s.

JANUARY 25.—**Maltby.**—HOUSES.—For (*a*) 36 houses, 24 parlour and 12 non-parlour type; (*b*) making of roads, and (*c*) construction of sewers in connection therewith on the Hall estate, for the U.D.C. Morgan R. Jones, Engineer and Surveyor. Deposit £2 2s.

JANUARY 25.—**Near Bognor.**—COTTAGES.—Two detached cottages on the Middleton Small Holdings Estate, near Bognor, for the West Sussex C.C. Haydn P. Roberts, F.R.I.B.A., County Architect, Westgate, Chichester.

JANUARY 25.—**Newton Abbot.**—HOUSES.—Eight houses at Liverton, Ilsington, and eight houses at Hennock, for the R.D.C. B. H. Palmer, L.R.I.B.A., 11, Union-street.

JANUARY 25.—**Newton Bewley.**—ADDITIONS.—Alterations and additions to Newton Bewley Farm, for the Durham C.C. Wm. Carter, A.R.I.B.A., Shire Hall, Durham.

JANUARY 25.—**Stone.**—HOUSES.—Fifty-eight parlour houses, on the site off Oulton-road, for the U.D.C. A. P. Miller, architect, Stone House, Stone.

JANUARY 25.— **Tipton.**— HOUSES.— Twenty-two houses (non-parlour type), on a site at Summerhill, and eighteen similar houses in Furnace-parade, Tipton, for the U.D.C. Wm. H. Jukes, M.E., Engineer and Surveyor, Public Offices, Owen-street. Deposit £2 2s.

JANUARY 26.—**Bettwsycoed.**—LAVATORIES.—Conversion of the building known as Llangwy Cottage, Bettwsycoed, into public building, including lavatories, &c., for the U.D.C. Salisbury Jones, Clerk and Solicitor to the Council, Gwydyr House, Llanrwst.

JANUARY 26. — **Bournemouth.** — SUPERSTRUCTURE. —Of the new pavilion in the Pleasure Gardens, for the C.B. Town Clerk, Town Hall, Bournemouth. Deposit £2 2s.

JANUARY 26. — **Chesterfield.** — HOUSES. — Twelve houses Wessington, 30 houses Morton, 56 houses Shirland, for the R.D.C. R. F. Hartwright.

JANUARY 26.—**Doncaster.**—PAINTING.—The exterior of the Mansion House and Municipal Offices, Priory-place, for the T.C. R. E. Ford, Estates Surveyor, 3, Priory-place.

JANUARY 26.—**Edinburgh.** — PAINTING. — Public wash-house, Portobello, for the T.C. E. J. MacRae, A.R.I.B.A., City Architect.

JANUARY 26.—**Mountain Ash.**—HOUSES.—Forty-eight houses on the Council's Pontcynon (Abercynon) site, and 48 non-parlour houses on the Council's Penrhiwceiber site, for the U.D.C. W. H. Williams, Architect, Town Hall.

JANUARY 26.—**Navan.**—LIGHTING.—Installation of electric lighting at the County Hospital, Navan. Secretary, County Home, Trim. Deposit £1.

JANUARY 26.—**Ruislip.**—POST OFFICE AND TELEPHONE EXCHANGE.—Erection of, at Ruislip, for the Commissioners, H.M.O.W. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

JANUARY 26.—**Sheffield.**—EXTENSION.—Extension of Rivelin Valley Filter House, Manchester-road, for the T. C. W. E. Hart, Town Clerk. Deposit £2.

JANUARY 27.—**Darenth.**—LIGHTING.—Installation of electric lighting at the training colony, Dartford, for the M.A.B. T. Cooper, M.Inst.C.E., M.I.Mech.E., Engineer-in-Chief, Office of the Board, Victoria Embankment, E.C.4. Deposit £1.

JANUARY 27.—**Leeds.**—PAINTING.—For inside and outside painting of a block at the Bramley Institution, 3, Green Hill-road, Armley, for the B.G. J. H. Ford, Clerk, Poor Law Offices, 11, South-parade.

JANUARY 27. — **London.** — TELEPHONE EXCHANGE.—Erection of, in Bermondsey, S.E., for the Commissioners, H.M.O.W. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

JANUARY 27. — **London.** — NEW LABORATORY BUILDINGS.—To be erected at Park Hospital, Hither Green, S.E.13, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1.

JANUARY 27.—**Newtown and Llanllwchairan.**—HOUSES.—Sixteen parlour-type houses on the Barn-lane site, for the U.D.C. A. Stanley Hill, architect, Severn-square, Newtown. Deposit £2 2s.

JANUARY 27.—**Sheffield.**—PAINTING.—For (1) Upperthorpe Baths; (2) Whitehouse and Kelvin buildings, Infirmary-road; (3) Live Poultry Market and Stalls, Sheaf Market; and (4) Wincobank Police Station, for the T.C. Wm. E. Hart, Town Clerk.

JANUARY 27.—**Tenterden.**—LIGHTING.—Wiring the institution at Tenterden for the installation of electric light, for the B.G. J. Munn Mace, Clerk to the Guardians.

JANUARY 27.—**Willerby.**—ADDITIONS.—Alterations and additions to the Hull City Mental Hospital, Willerby. Chairman of the Building Extensions, Sub-Committee. Deposit £2 2s.

★JANUARY 28.—**Birmingham.**—MASONIC TEMPLE. —Erection of new Masonic Temple in Broad-street, for the Masonic Memorial Temple Committee. Rupert Savage, F.R.I.B.A., architect, 67A, New-street. Deposit £2 2s.

JANUARY 28.—**Bristol.**—ROOM.—New class room at Southmead Hospital, for the T.C. T. S. Lamb, Clerk to the Guardians, St. Peter's Hospital.

JANUARY 28.—**Dublin.**—REPAIRS.—To cottage at Farmyard, Crooksling Sanatorium and erection of new gates, Mansion House, for the C.B. J. J. Murphy, Town Clerk.

JANUARY 28.—**London.**—LIGHTING.—Installation of electric lighting at the schools, at Andover-row, Hornsey-road, N.7, for the Islington B.G. J. Harrison, L.R.I.B.A., 23, Berkeley-road, Crouch End, N.8. Deposit £2.

JANUARY 28.—**Nottingham.** — DEPOT. — Buildings, comprising sheds, offices, and sale shops, covering an area of 2¼ acres, for a new tram depot, for the T.C. T. Wallis Gordon, City Engineer. Deposit £3 3s.

JANUARY 28.—**Richmond (Surrey).**—HEATING.— Installation of steam boiler, calorifiers, heating, hot-water supply, at the Grove-road Institution, for the B.G. T. J. R. Kiernan, Consulting Engineer, 17, Victoria-street, Westminster, S.W.1. Deposit £2 2s.

JANUARY 28.—**Wortley.**—HOUSES.—Six non-parlour type houses, Yew-lane, Ecclesfield, for the R.D.C. F. Thurlby, Engineer and Surveyor. Deposit £2 2s.

JANUARY 29.—**Chelmsford.**—HOUSES.—250 houses on the Boarded Barns estate, for the T.C. E. J. Miles, Borough Engineer. Deposit £2 2s.

JANUARY 29.—**Edinburgh.**—BUILDING.—Proposed additional story over Traffic Office to form new mess room and tailors' workshop, &c., at Tramway Depot, Shrubhill; proposed addition to the Nurses' Home at City Hospital, Colinton Mains; proposed garages and workshops, cleaning and lighting depot, King's Stables-road; and demolition of buildings at Dumbiedykes-lane, for the T.C. E. J. MacRae, A.R.I.B.A., City Architect.

JANUARY 29.—**London.**—TELEPHONE EXCHANGE. —Completion of the Royal Telephone Exchange, London, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

JANUARY 29.—**Manchester.**—WIRING.—Of electric lighting and power circuits in offices, stores, and workshops, High-street depot, Chorlton-on-Medlock, for the T.C. H. C. Lamb, Manager, Electricity Department. Deposit £1 1s.

JANUARY 29.—**Rotherham.**—SCHOOL.—Extension of the Badsley-Moor-lane Council school, to provide additional accommodation for 250 children, for the C.B. C. A. Broadhead, A.R.I.B.A., Devonshire House, Moorgate.

JANUARY 29.—**Whittlesford.**—COTTAGE. — On the Royston-road at Whittlesford, for the Cambridgeshire C.C. C. R. Bennett, F.S.I., County Agricultural Officer, County Hall, Cambridge.

JANUARY 30.—**Braintree.**—HOUSES.—Erection of 54 houses in three types on the Cressing-road site, for the Braintree U.D.C. D. G. Armstrong, Great-square, Braintree. Deposit £2 2s.

JANUARY 30.—**Cardiff.**—HOUSE.—At Tongwynlais, and foreman's bungalow at Quaker's Yard, in connection with the Taff Fawr pipe line, for the Corporation. R. Lehane, Mackenzie & Shand, Ltd., Civil Engineers, Glan-y-llyn, Taff's Well.

JANUARY 30.—**Erpingham.**—HOUSES.—Four houses at Southrepps and two houses at Cley, for the R.D.C. Mr. Tuddenham, the Council's Building Surveyor.

JANUARY 30. — **Gosforth.** — HOUSES. — 84 semi-detached houses on the Coxlodge site, for the U.D.C. G. Nelson, engineer and surveyor.

JANUARY 30.—**Hindhead.**—HOUSE.—H. S. Sidebotham, architect, Mindhead. Deposit, £2 10s.

JANUARY 30.—**Manchester.**—SCHOOL.—Open-air school at the Rose Hill Convalescent Home, Langley-lane, Northendan, Cheshire, for the B.G. A. J. Murgatroyd, architect, 23, Strutt-street. Deposit £2 2s.

JANUARY 30. — **Newmarket.** — HOUSES.—Erection of three pairs at Fordham, for the R.D.C. A. E. Austin, 4, Hill's-view, Great Shelford, Cambs.

JANUARY 30.—**Sutton Coldfield.**—ALMSHOUSES.—Ten almshouses at Walmley, for the Municipal Charities. H. H. Farmer, F.R.I.B.A., Hickton, Farmer & Farmer, architects, 57, Colmore-row, Birmingham.

JANUARY 31.—**Brentwood.**—ALTERATIONS.—To the existing cowhouses and the building of a new cowhouse and dairy building with lavatories, &c., in connection therewith, at the Branch Institution, for the Hackney B.C. T. Talfourd Cumming, F.R.I.B.A., of King Edward Buildings, Reading. Deposit £3 3s.

FEBRUARY 1.—**Barnsley.**—PAINTING.—Cleansing and painting the interior of the public baths, York-street, for the C.B. Borough Engineer.

FEBRUARY 1.—**Batley.**—HOUSES.—Twenty-two non-parlour type houses on the Anne-street and Ealand-road site, for the T.C. H. L. Hall, Borough Engineer.

FEBRUARY 1. — **Dublin.** — HOUSES. — Ninety-six houses on the Croydon-park extension of the Marino housing scheme, for the C.B. City Architect, Exchange Buildings, Lord Edward-street. Deposit £2.

FEBRUARY 1.—**Edinburgh.**—HOSTELS.—Two hostels now in course of erection at Craigmillar Park: Carpenter and joiner work, plumber work, plaster work, slater, roof, asphalte, and roughcast work, steel work, glazier work, and tile and terrazzo work, for the T.C. F. Wood, architect, 6A, George-street, Edinburgh.

FEBRUARY 1.—**Great Crosby.**—HOUSES.—Six houses in Endbutt-lane, for the U.D.C. J. A. Wright, Surveyor. Deposit £1 1s.

FEBRUARY 1. — **London.**—DWELLINGS. — Erection of two blocks, &c., on the Holland estate (Bell-lane area), Spitalfields, for the L.C.C. Architect to the Council, The County Hall (Room No. 3), Westminster Bridge, S.E.1. Deposit £2 to the cashier.

FEBRUARY 1.—**Salford.**—EXTENSION.—Of the Poor Law offices in Eccles New-road, for the B.G. W. Telford Gunson & Son, architects, 10, Marsden-street, Manchester. Deposit £2 2s.

FEBRUARY 1.—**Torry.**—REPAIRS.—For (1) Mason, brick and drainage works, &c., and (2) formation of playgrounds of new intermediate school at Torry, for the Aberdeen E.C. J. A. O. Allan, architect, 25, Union-terrace, Aberdeen.

FEBRUARY 2.—**Abingdon.**—HOUSES. — Erection of thirty-six on the Boxhill Housing Estate, for the Borough Council. J. G. T. West & Son, FF.R.I.B.A., Architects to the Council, Abingdon. Deposit £2 2s.

FEBRUARY 2.—**Hunslet.** — HOUSES. — Twenty-two houses at Templenewsam, near Leeds, including all paths, drains, fences, &c., for the R.D.C. W. B. Pindar, Clerk to the Council, Leek-street, Hunslet, Leeds.

FEBRUARY 2.—**Killarney.**—ROOMS.—Refreshment rooms at Killarney Station, for the Great Southern Railways. Company's Chief Engineer, Broadstone Station, Dublin. Deposit £1 1s.

FEBRUARY 2.—**Leicester.**—SCHOOL BUILDINGS.— Erection of, for 720 girls, for the City Council. F. P. Armitage, Director of Education, Town Hall. Deposit £2 2s.

FEBRUARY 2.—**Leicester.**—TELEPHONE EXCHANGE. —System telephone exchange, for the Commissioners of H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W. 1. Deposit £1 1s. (cheques payable to the Commissioners).

★FEBRUARY 3.—**Brighton.**—SCHOOL.—Erection of an elementary school for junior mixed scholars at Moulsecomb, for the E.C. T. Simpson & Sons, Surveyors to the Committee, 16, Ship-street, Brighton. Deposit £3.

FEBRUARY 3.—**Burntisland.**—HOUSES.—Twenty houses, Haugh site, for the T.C. J. A. Waddell, Burgh Surveyor.

FEBRUARY 3.—**Windlesham.**—HOUSES.—Ten non-parlour type brick houses with slated roofs at the Windlesham site in Thorndown-lane, for the U.D.C. C. Gray, Surveyor to the Council, Council Offices, Bagshot. Deposit £2 2s.

FEBRUARY 4. — **London.** — EXTENSIONS. — To a steel frame and reinforced concrete sub-station at Lomas Buildings, Mile End Old Town, for the Metropolitan Borough of Stepney. Borough Engineer and Surveyor, Municipal Offices, Raine-street, E.1, between 10 a.m. and noon. Deposit £2 (Treasury Notes).

FEBRUARY 6.—**Eccles.** — HOUSES. — Erection of twelve parlour-type in two blocks, containing six houses in each block, in Gaskell-road, for the Health Committee of the Corporation. T. Elce, M.Sc.Tech., A.M.Inst.C.E., Borough Engineer and Surveyor, Town Hall. Deposit £2 2s.

FEBRUARY 6.—**Smethwick.** — HOUSES. — Erection of 44 parlour and 162 non-parlour, Contract Nos. 5, 6 & 7, for the Housing Committee of the Borough Council. Roland Fletcher, Assoc.M.Inst.C.E., Borough Engineer and Surveyor, Council House. Deposit £5 5s.

FEBRUARY 8.—**Clutton.**—HOUSES.—Sixteen houses at Timsbury, for the R.D.C. Mr. Hawker, architect, Council House, Temple Cloud. Deposit £2 2s.

★FEBRUARY 8.—**Essex.**—ADDITIONS AND ALTERATIONS.—To the Laindon Hills elementary school, for the C.C. County Architect, Springfield Old Court, Chelmsford. Deposit £1 1s.

FEBRUARY 8.—**Ossett.**—HOUSES.—Twenty-four scullery-type houses on the Leeds-road site, for the T.C. H. Holmes, Borough Engineer and Surveyor.

★FEBRUARY 9.—**Newmarket.**—HOUSES.—Erection of 14 pairs, for the R.D.C. A. E. Austin, 4, Hills View, Great Shelford, Cambs.

✱FEBRUARY 9.—**Oxted (Surrey).**—HOUSES.—Erection of four Class "A" and sixteen Class "B," at Red-lane site, Limpsfield, for the Godstone R.D.C. Sydney F. Evershed, L.R.I.B.A., Lloyds' Bank Chambers, Oxted. Deposit £3 3s.

FEBRUARY 9.—**Saddleworth.**—SCHOOL.—New school at Saddleworth Diggle, for the West Riding E.C. Education Department, County Hall, Wakefield.

✱FEBRUARY 9.—**Surrey.**—BATHS AND GEYSERS.—Provision and fixing of baths and geysers in five cottages at the Mayford School, near Woking, Surrey, for the L.C.C. Architect to the Council, the County Hall (Room No. 3), Westminster Bridge, S.E.1.

FEBRUARY 9.—**Swinton.**—ADDITIONS.—Additions and alterations to Swinton Kilnhurst Council School, for the West Riding E.C. The Education Department, County Hall, Wakefield.

FEBRUARY 9.—**West Riding.**—BUILDING.—For (1) Erection of new conveniences at Otley North Parade Council school, and (2) proposed alterations at Baildon Sandal Council school, for the E.C. Education Department, County Hall, Wakefield.

FEBRUARY 10.—**Clonmel.**—BUILDING.—Completion of the front of SS. Peter and Paul's Church, Clonmel, for the Rev. Dean Walsh. Ashlin & Coleman, architects, 7, Dawson-street, Dublin. Deposit, £3 3s.

FEBRUARY 13.—**Crowfield.**—HOUSE.—At Crowfield, for the East Suffolk Constabulary. C. Oakes, Clerk to the East Suffolk Standing Joint Committee, County Hall, Ipswich.

✱FEBRUARY 15.—**London.**—STORE BUILDING.—Construction (in brick and steel) of a new store building at the car repair depot, Woolwich-road, Charlton, S.E., for the L.C.C. Architect to the Council, The County Hall, (Room No. 3), Westminster Bridge, S.E.1. Deposit £2 2s., to the Cashier.

✱FEBRUARY 15.—**Poplar.**—FLATS.—Erection of 24 flats on a site in St. Leonard's-street, for the Metropolitan B.C. Borough Surveyor, Council Offices, High-street, Poplar, E.14. Deposit £3 3s.

FEBRUARY 15.—**Truro.**—HOUSES.—Erection of blocks of workmen's dwelling houses, distributed as follows:—At St. Erme (four), Merther (four), Cuby (two), Kea (two), Ruantanihorne (four), Gerrans (four), for the R.D.C. H. L. Butler, architect, 39, Edward-street. Deposit £1 1s.

FEBRUARY 15.—**Windsor.**—HOUSES.—Erection of twelve parlour-type houses, including fences, paths, &c., on the building site at Bagshot-road, Sunninghill, for the R.D.C. W. Menzies, F.S.I., Englefield Green, Surrey. Deposit £1 1s.

FEBRUARY 15.—**Windsor.**—HOUSES.—Erection of twelve parlour-type houses, including fences, paths, &c., on the building site at Church-road, Old Windsor, for the R.D.C. W. Menzies, F.S.I., Council's Architect, Englefield Green, Surrey. Deposit £1 1s.

✱FEBRUARY 16.—**Bethnal Green.**—HOSPITAL WARDS.—Erection of Receiving and Casualty Wards, at the Bethnal Green Hospital, Cambridge-road, E. 2, for the Guardians. C. Faulkner Jones, Clerk to the Guardians, Administrative Offices, Bishop's-road, Bethnal Green, E. 2. Deposit £3 3s.

✱FEBRUARY 16.—**Bournemouth.**—PAVILION.—Superstructure contract of the new pavilion in the Pleasure Gardens, for the County Borough Council. Herbert Ashling, Town Clerk, Town Hall. Deposit £2 2s.

FEBRUARY 16.—**Hoylandswaine.**—HEATING.—Installation of heating apparatus at the Council school, for the West Riding E.C. Education Department, County Hall, Wakefield.

FEBRUARY 19.—**Ireland.**—COTTAGES.—For 40 in Belfast Rural District; 4 in Carrickfergus Rural District; 16 in Bangor Rural District; 12 in Holywood Rural District; 6 in Lisburn Rural District; 12 in Larne Rural District; 4 in Ballymena Rural District; 2 in Portrush Urban District; 10 in Strabane Urban District; 4 in Omagh Urban District; 14 in Dungannon Urban District; 10 in Enniskillen Urban District, for the Government of Northern Ireland. W. R. Maconkey, Assistant Secretary, Ministry of Finance, Belfast. Deposit £5.

FEBRUARY 20.—**Halifax.**—ABATTOIRS.—New public abattoirs, for the C.B. Borough Engineer, Crossley-street. Deposit £2 2s.

✱FEBRUARY 22.—**London District.**—ORDINARY WORKS AND REPAIRS.—To the buildings in their charge in the London District during the period of one year from April 1, 1926, for the Commissioners H.M. Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £2 2s. (Cheques payable to the Commissioners.)

✱FEBRUARY.—**Tilbury.**—SCHOOL ENLARGEMENT.—Enlargement of the Tilbury Upper Ward Elementary School, for the E.C. County Architect, Springfield Old Court, Chelmsford. Deposit £1 1s.

NO DATE.—**Castleford.**—ADDITIONS.—Alterations and additions to "The Eagle" Hotel, Whitwood Mere, Castleford, for the Leeds and Wakefield Brewery Co., Ltd. Garside & Pennington, architects and surveyors, Ropergate, Pontefract.

NO DATE.—**Featherstone.**—ALTERATIONS.—Various works in connection with the proposed additions and alterations at the Central Club premises. W. Hamilton, architect, Fearnley, Station-lane.

NO DATE.—**Lanark.**—HOUSES.—Sixty houses at Garnkirk, Muirhead, and 36 houses at Chryston, for the C.C. Jas. A. M'Callum, District Clerk, 15, West George-street, Glasgow.

NO DATE.—**Topsham.**—COTTAGES.—Twelve detached cottages at Topsham. E. H. Harbottle & Sons, architects, County Chambers, Exeter.

MATERIALS, etc.

JANUARY 25.—**Beverley.**—STONE.—5,000 to 6,000 tons of stone for macadamising roads, for the D.C. E. Picker, Surveyor.

JANUARY 25.—**Glasgow.**—MATERIALS.—Fire bricks, fire clay, and fire clay retorts, for the T.C. J. Lindsay, Town Clerk.

JANUARY 25.—**Newport (Isle of Wight).**—MATERIALS.—500 tons of broken granite, 300 tons of ¾ in. broken granite, 300 tons of ¼ in. broken granite, for the T.C. E. A. Slater, Borough Surveyor.

JANUARY 25.—**Rathmines and Rathgar.**—RAILINGS.—100 ft. of heavy vertical bar railing, 5 ft. 6 in. high overground, and 9 ft. double gate, complete with gate post, for the U.D.C. Seacombe Mason, Clerk of the Council, Town Hall, Rathmines, Co. Dublin.

JANUARY 25.—**Uckfield.**—MATERIALS.—2,625 tons of tarred macadam, 600 tons granite, 6,500 tons Mendip, 2,000 tons flint grit or other suitable material for tar binder, 250 tons footpath gravel, 60,000 gallons tar or other compound suitable for the treatment of road surfaces, for the R.D.C. Capt. E. W. Ray Johnson, Highways Surveyor, Surveyor's Office, Buxted, Sussex.

JANUARY 26.—**Ryde (Isle of Wight).**—MATERIALS.—1,000 tons of ¼ in. clean granite chippings, for the T.C. T. J. Fawdry, Town Clerk.

JANUARY 26.—**Stockbridge.**—MATERIALS.—Limestone, gravel, &c., for the R.D.C. A. Hunt, Surveyor, Broughton.

JANUARY 26.—**Stratford-upon-Avon.**—MATERIALS.—Granite macadam and granite setts, slag (broken and unbroken), tar macadam, stone and concrete kerbing, paving and channelling, cast-iron work, lime, and cement, for the T.C. F. W. Jones, A.M.Inst.C.E., Borough Surveyor.

JANUARY 26.—**Willesden.**—MATERIALS.—Artificial slab paving, tar paving and tarmacadam, gravel, flints, burnt ballast, &c., for repair of roads, broken granite and slag for repair of roads, &c., lime, cement and stoneward pipes, &c., for the U.D.C. F. Wilkinson, Engineer, Town Hall, Dyne-road, Kilburn, N.W.6.

JANUARY 27.—**Isle of Wight.**—MATERIALS.—Granite and granite chippings, tar, for the C.C. E. B. Wray, Highway Surveyor, County Hall, Newport, I.W.

JANUARY 28.—**Dublin.**—MATERIALS.—Bricks, stoneware sewer pipes and slates, flags, kerbs, lime, &c., iron materials, plumbing work, public lighting requirements and glass, for the C.B. J. J. Murphy, Town Clerk.

JANUARY 28.—**Liverpool.**—MATERIALS.—Timber, ironmongery, &c., steel sheets, wrought iron, and files, iron castings, oils, paints, &c., for the T.C. The General Manager, Liverpool Corporation Tramways, 24, Hatton Garden.

JANUARY 28.—**Salford.**—LIME.—300 tons of lime for the C.B. L. C. Evans, Town Clerk.

JANUARY 28.—**Tring.**—MATERIALS.—Blast furnace slag, flints, hoggin, crushed shingle, for the U.D.C. H. N. Hedges, Surveyor.

JANUARY 29.—**Alton.**—MATERIALS.—Broken granite and limestone, for the R.D.C. A. O. Crew, Rodney House.

JANUARY 29.—**Croydon.**—MATERIALS.—Broken granite, granite chippings, granite dust, granite kerb, tarred Kentish ragstone, tarviated slag macadam, for the C.B. Borough Road Surveyor.

JANUARY 30.—**Cheltenham.**—MATERIALS.—Portland cement, stoneware pipes, disinfectants, lead pipe, tin, &c., wrought iron, lime, bricks and sand, &c., cast-iron pipes, castings, timber, E.L. fittings, for the T.C. J. S. Pickering, Borough Engineer.

JANUARY 30.—**Crayford.**—MATERIALS.—Castings, sewer pipes, cement, lime, road materials, for the U.D.C. F. Leary, Engineer and Surveyor.

JANUARY 30.—**Devonshire.**—MATERIALS.—Tar macadam, granite, basalt, limestone, tar, bituminous compounds, for the C.C. F. E. Simpson, County Surveyor, 21, Southernhay West, Exeter.

JANUARY 30.—**Hertfordshire.**—MATERIALS.—Hand-picked surface flints, dug gravel, hoggin, shingle and sand, for the C.C. A. E. Prescott, Lt.-Col., County Surveyor, County Surveyor's Office, Hatfield.

JANUARY 31.—**Kettering.**—MATERIALS.—For refined tar, ½ in. chippings, ¼ in. Bedford gravel, for the R.D.C. H. J. Parker, Surveyor, London-road.

JANUARY 30.—**Worcestershire.**—GRANITE.—Granite, slag and tarmacadam, for the C.C. C. F. Gettings, County Surveyor, 30, Foregate-street, Worcester.

FEBRUARY 1.—**Amersham.**—MATERIALS.—Road materials, gravel, flint, &c., for the R.D.C. A. H. Prince, District Surveyor, High-street.

FEBRUARY 1.—**Folkestone.**—MATERIALS.—Cast iron and Portland cements, &c., for the T.C. A. E. Nichols, Borough Engineer.

FEBRUARY 1.—**Little Hulton.**—GRANITE.—Broken granite, 4 by 5 granite setts, tarmacadam, tarred limestone, limestone and slag chippings, grit kerbs, concrete flags, stoneware pipes and gullies, cement, steam road rolling and scarifying, disinfectants, pitch and oil, hardware, brooms and tools, for the U.D.C. J. H. Heyes, Clerk.

FEBRUARY 1.—**Portslade-by-Sea.**—MATERIALS.—350 cubic yds. of picked surface hill flints (broken) or double screened coombe-rock flints (broken), for the U.D.C. D. V. Howard, Surveyor.

FEBRUARY 1.—**West Suffolk.**—MATERIALS.—For (1) broken and unbroken road material; (2) pit gravel, sand, and unbroken pit stones, for the C.C. E. H. Bond, County Surveyor, Shire Hall, Bury St. Edmunds.

✱FEBRUARY 2.—**Hampstead.**—Works, materials or services for one year (unless otherwise stated) from April 1 next, for the Borough Council. Arthur P. Johnson, Town Clerk, Town Hall, Haverstock Hill, N.W.3.

FEBRUARY 3.—**Canterbury.**—MATERIALS.—Broken Guernsey granite, kerb and channel granite, tarred macadam, York flags, road surfacing compound, stone pipes, gullies, &c., Portland cement, timber, bricks, shingle and sand, castings, for the C.B. Philip H. Warwick, City Surveyor and Engineer.

FEBRUARY 3.—**London.**—MATERIALS.—Asphalte, bitumen, pitch, &c., ballast, sand, &c., lime, bricks, pipes, sewer ironwork and timber, &c., for the Southwark B.C. P. H. Gray, Town Clerk, Town Hall, Walworth-road, S.E.17.

FEBRUARY 3.—**Skegness.**—MATERIALS.—Granite, slag, tar macadam, tar, stoneware drain pipes, &c., Portland cement, cast-iron pipes, and castings, for the U.D.C. R. H. Jenkins, engineer and surveyor.

FEBRUARY 4.—**Chatham.**—MATERIALS.—Aylesford, gravel, sand, Thames ballast, pea shingle, crushed ragstone, stock bricks, Portland cement, lime, stoneware pipes, sewer ironwork, timber, paints, for the T.C. R. L. Honey, Borough Engineer and Surveyor.

✱FEBRUARY 8.—**London.**—STORES, &c.—Supply of stores, &c., for the period of twelve months commencing April 1, 1926, for the Metropolitan Water Board, Chief Engineer, Metropolitan Water Board, 173, Rosebery-avenue, E.C.1, by personal application (Room 156), or upon forwarding a stamped addressed brief envelope.

FEBRUARY 10.—**London.**—MATERIALS.—Tarred slag macadam and tar-paving, asphalte, bitumen, &c., tar for tar-spraying, Thames ballast, sand and shingle lime and cement, bricks, stoneware pipes, granite York stone paving slabs, artificial stone paving slabs and plumber's work, for the Hammersmith B.C. Borough Engineer and Surveyor.

FEBRUARY 10.—**Middlesex.**—MATERIALS.—700 tons of 2 in. machine-broken Clee Hill granite, and ¼ in. granite chippings, 2,750 tons of clean granite chippings for tar-painting work, also for 2,750 tons tarred slag macadam, for the C.C. A. Dryland, County Engineer, County Engineer's Department, Middlesex Guildhall, Westminster, S.W.1.

FEBRUARY 11.—**London.**—MATERIALS.—Sewer castings, stoneware drain pipes, stock and Fletton bricks, timber, ballast, sand, gravel, &c., broken granite, York and Lancashire stone and artificial paving, kerb and paving setts, Portland cement, grey lime, creosoted deal blocks, for the Lambeth B.C. O. Cattlin, Chartered Civil Engineer, Borough Engineer, Town Hall, Brixton Hill, S.W.2.

FEBRUARY 12.—**Thirsk.**—MATERIALS.—Whinstone, slag, and tarred slag, &c., for the R.D.C. J. W. Lupton, Surveyor.

FEBRUARY 13.—**Halifax.**—MATERIALS.—**Paving**, setts, flags, kerb, &c., granite and limestone chippings, Portland cement, gravel and sand, earthenware pipes, &c., granite paving setts, artificial flags, tar-macadam, tar, bituminous spraying compounds, &c., for the C.B. Borough Engineer.

NO DATE.—**King's Lynn.**—GRANITE.—1,000 tons of ¾ in. to ¼ in. clean granite chippings, for the T.C. J. C. Matthew, Borough Engineer.

ENGINEERING, IRON AND STEEL.

JANUARY 25.—**Glasgow.**—ROOF.—Steel-frame work floor and roof of a booster house at Dalmarnock Gasworks, for the T.C. General Manager, Gas Department, 30, John-street.

JANUARY 25.—**London.**—GIRDERS.—For (a) about 4,425 tons of standard steel girder tramway track, &c., for the L.C.C. Chief Engineer of the Council, Old County Hall, Spring Gardens, S.W.1.

JANUARY 25.—**Seisdon.**—TANKS.—Construction of tanks and filters at the Upper Penn Sewage Works, and the provision and laying of stoneware and cast-iron sewers, varying in size from 6 in. to 18 in. diameter, and other appurtenant works, in the parish of Upper Penn, for the R.D.C. Berrington & Son, engineers, Prudential Chambers, Lichfield-street, Wolverhampton. Deposit £5 5s.

JANUARY 27.—**Hull.**—STEELWORK.—Steel roof principals and other structural work, for the T.C. F. W. Bricknell, City Engineer. Deposit £1.

JANUARY 29.—**Aberdeen.**—BRIDGE.—Widening, in reinforced concrete, of the stone arch bridge known as the Rob Roy Bridge at Culter, for the C.C. Walker & Duncan, civil engineers, 3, Golden-square, Aberdeen. Deposit £2.

JANUARY 30.—**Bentley-with-Arksey.**—WIDENING.—Of Lady Pitt's Bridge and flood arches on Doncaster and Tadcaster main road, for the West Riding C.C. Surveyor, County Hall, Wakefield. Deposit, £1.

FEBRUARY 6.—**Hemel Hempstead.**—SEWERS.—Construction of about 1,450 yards of 9 in. stoneware and iron pipe sewers and 170 yards of 4 in. iron pumping main, with manholes and all appurtenant works, and the erection of detritus pits, dortmund tank, filter bed, humus tanks, mud drying beds, and other appurtenant works, for the R.D.C. W. H. Radford & Son, engineers, Albion Chambers, King-street, Nottingham. Deposit £3 3s.

FEBRUARY 9.—**Smethwick.**—WIDENING.—Of Spon-lane bridge, and the reconstruction and widening of the bridge over the L.M.S. Railway's main line, and the widening of the bridge over the goods line in brickwork and steel, together with brick retaining and parapet walls, and all incidental works, for the C.B. R. Fletcher, Borough Engineer and Surveyor. Deposit £5 5s.

FEBRUARY 12.—**Bakewell.**—RESERVOIR.—Construction of concrete service reservoir and the providing, laying and jointing of about 5,400 lineal yards of 4, 3, and 2 in. cast-iron pipes, with all necessary valves, hydrants, and other work incidental thereto, in the parish of Eyam, for the R.D.C. Brady & Partington, Chartered Civil Engineers, Market-street, Chapel-en-le-Frith. Deposit £5.

✱FEBRUARY 23.—**Watford.**—ENGINEERING WORK.—Laundry machinery, water softener, electric lighting, central heating plant in sections at the Institution, 60, Vicarage-road, for the Guardians of the Watford Union. Masters' Office at the Institution, or at the Consulting Engineer's Office, 39, Carlton-road, Putney, S.W.15. Deposit £2 in notes for each section.

ROAD, SEWERAGE, AND WATER WORKS.

JANUARY 25.—**Edinburgh.**—KERBING.—Laying new kerbing, metalling, rolling, and finishing roads, and forming new tar macadam footpaths, &c., on the Gorgie housing estate, for the T.C. Burgh Engineer

JANUARY 25.—**Finchley.**—PAVING.—Kerbing and paving works in Manor View and Squires-lane, for the U.D.C. P. T. Harrison, Engineer. Deposit £1.

JANUARY 25.—**Harrogate.**—DRAINAGE.—Of a portion of The Stray, Harrogate, consisting of 67¼ acres, for the Corporation. C. E. Rivers, Borough Engineer.

JANUARY 25.—**Loch Whinyean.**—BUILDING.—Construction of intake works and screening house at Loch Whinyean, about eight miles from Kirkcudbright, and for laying and jointing half a mile of 9 in. cast-iron pipes and eight and a-half miles of 6 in., or, alternatively, 7 in. cast-iron pipes, together with the construction of incidental and relative works, for the Kirkcudbright Water Committee. J. Gibson, Town Clerk, Town Clerk's Office, Kirkcudbright.

JANUARY 25.—**Manchester.**—PAVING.—Sewering, draining, paving (tarmacadam), flagging (artificial flags), &c., Richmond-street, Gorton, Rutland-street, Gorton, Newport-street, Gorton, Monmouth-street, Gorton, and draining, paving (tarmacadam), flagging (artificial flags), &c., Willow-way, Didsbury, from Catterick-road to Parr's Wood-road, Parr's Wood-road, Didsbury, from south side of Willow-way to Atwood-road, Burnage Hall-road, Burnage, from Lindsay-road to Kingsway, and draining, paving (rock asphalt), flagging (artificial flags), &c., Lindsay-road, Burnage, from Clifton-street for a distance of 72½ yds. in a northerly direction, for the T.C. P. M. Heath, Town Clerk. Deposit £1 1s.

JANUARY 25.—**Middleton-in-Wharfedale.**—ASPHALTING.—Asphalting of footpaths at the sanatorium, near Ilkley, for the West Riding C.C. West Riding Architect, County Hall, Wakefield.

JANUARY 25.—**Monmouth.**—SURFACING.—A section of the Newport-Cardiff trunk road scheme, for the C.C. S. A. Bennett, County Surveyor, County Hall, Newport, Mon. Deposit £25.

JANUARY 25.—**Scarborough.**—ROADS.—Construction of reinforced concrete carriageway, &c., in Londesborough-road and Avenue-road, for the T.C. H. W. Smith, Borough Engineer.

JANUARY 26.—**Barnet.**—ROADS.—Construction of roads and sewers necessary in connection with the development of the Wellhouse estate. The work comprises approximately: 1,135 yds. lin. 9 in. soil sewers, 1,190½ yds. lin. 9 in. 21 in. S.W. sewers, 3,310 ft. lin. of roads varying in width from 36 ft. to 50 ft., for the U.D.C. E. Scott, Engineer and Surveyor. Deposit £3 3s.

JANUARY 26.—**Gosforth.**—SEWAGE.—Extension of the existing 12 in. sewage sewer in Haddrick's Mill-road, for the U.D.C. G. Nelson, Engineer and Surveyor.

JANUARY 26.—**Poole.**—REPAIRS.—Resurfacing Ashley-road and Poole-road (from View-road to County Gates) with asphalte macadam, including laying surface water drains, relaying kerb, &c., and street improvements connected, for the T.C. S. J. Newman, F.R.I.B.A., Borough Surveyor. Deposit £2.

JANUARY 27.—**Baildon.**—CONVERSION.—Of the w.c.'s at Tong Park Council school. E. H. Steel, Penny Bank Chambers, Shipley.

JANUARY 27.—**Berks.**—REPAIRS TO ROADS.—At Pinewood, Wokingham, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1.

JANUARY 27.—**Friern Barnet.**—WORKS.—Surfacing works—Oakleigh-road North (asphalt carpet); widening and reconstruction works—Oakleigh-road North; footway paving works—Colney Hatch-lane; footway paving and resurfacing of carriageway—Pembroke-road, for the U.D.C. F. P. Kindell, Engineer and Surveyor.

JANUARY 27.—**Grimsby.**—RECONSTRUCTION.—For (*a*) Reconstruction of Victoria-street West, area 3,350 super yds., with reinforced concrete foundation; (*b*) covering same with bituminous material; (*c*) resurfacing of Hainton-avenue, area 6,660 super yds., with bituminous material, old foundation to remain, for the C.B. H. Gilbert Whyatt, Borough Engineer and Surveyor.

JANUARY 27.—**Hornsey.**—REPAVING.—Sewering, levelling, paving, metalling, kerbing, channelling, and making good Woodside-avenue (fourth section), about 1,268 ft. lineal; Fortis Green-avenue (second and third sections), about 528 ft. lineal; and Annington-road, about 325 ft., lineal, for the T.C. E. J. Lovegrove, Borough Engineer and Surveyor, Town Hall, Highgate.

JANUARY 27. — **London.** — WIDENING THE ENTRANCE.—At the Western Ambulance Station, Seagrave-road, Fulham, for the Metropolitan Asylums Board. Office of the Board, Victoria Embankment, E.C.4. Deposit £1 1s.

JANUARY 28.—**Richmond (Surrey).**—MAKING-UP.—Levelling, metalling, paving, and making good part of North-road, for the T.C. J. W. Trodd, Borough Engineer. Deposit £1 1s.

JANUARY 29. — **Hartlepool.** — RECONSTRUCTION. — Widening and reconstruction of road leading from Elwick to Naisberry-lane end, a length of approximately 1 mile, for the R.D.C. Road Surveyor, Union Offices, Hart-road, West Hartlepool. Deposit £2 2s.

JANUARY 29.—**Inverness-shire.**—ROAD.—Construction, reconstruction, and surfacing from first district boundary to Findhorn Bridge, a length of approximately eight miles; earthworks, bridges, bottoming, surfacing, drainage and fencing, &c., for the C.C. The Chief Engineer, 98-104, Academy-street, Inverness. Deposit £3 3s.

JANUARY 29.—**Tadcaster.**—SEWERS.—Providing and laying about 1,225 yards of 9 in. and 542 yards of 6 in. earthenware sewers, with manholes and ventilating shafts, complete, for the R.D.C. H. M. Driver, Surveyor, Garforth, near Leeds.

JANUARY 30.—**Bangor.**—IMPROVEMENTS. — Street improvement works in the City, for the T.C. City Surveyor. Deposit £2.

JANUARY 30.—**Duns.**—MAINS.—Supplying, laying, and jointing 3,250 yards of 3, 4, and 5 in. cast-iron pipes, and relative works, for the T.C. Burgh Surveyor. Deposit £1.

JANUARY 30.—**Gosforth.**—SEWERS.—**For laying new sewers and formation of roadways to complete the layout of the Coxlodge housing site, for the U.D.C. G. Nelson, Engineer and Surveyor.**

JANUARY 30.—**Hereford.**—ROADS.—Construction of new roads and sewers on the Westfields housing estate, for the T.C. W. McNeil Shimmin, City Surveyor and Engineer.

JANUARY 30.—**Near Ilkley.**—MAIN.—Laying 3 in. cast-iron water main at Middleton-in-Wharfedale Sanatorium Farm, near Ilkley, for the West Riding C.C. West Riding Architect, County Hall, Wakefield.

JANUARY 30.—**Tadcaster.**—MAINS.—Providing and laying cast-iron water mains with valves, hydrants, &c., complete as follows: Allerton Bywater, Robinson-street and Victoria-street, 520 yds. of 4 in. and 20 yds. of 3 in. pipes; and Kippax housing site, 268 yds. of 4 in. pipe, for the R.D.C. E. Thackray, Water Inspector, Station-road, Kippax, near Leeds.

JANUARY 31.—**Leyton.**—RECONSTRUCTION.—Of portions of Lea Bridge-road with reinforced concrete and granite sett paving, for the U.D.C. A. P. Howell, Engineer. Deposit £10.

FEBRUARY 1.—**Barnsley.**—ROAD.—Back road between Caxton-street and Longman-road, for the C.B. Borough Engineer.

FEBRUARY 1.—**Bury.**—SEWER.—500 lineal yards of cast-iron sewer with internal lining of brickwork of a finished internal diameter of 3 ft. 3½ in., constructed in compressed air; together with manholes and all contingent works, situate between Heywood-street and George-street, for the C.B. J. A. Settle, Borough Engineer. Deposit £2.

FEBRUARY 1.—**Chelmsford.**—ROADS.—Roads, together with laying of sewers and surface water drainage, &c., in Ockleford-avenue, Eastern-crescent, Brownings-avenue, for the T.C. E. J. Miles, Borough Engineer. Deposit £1 1s.

FEBRUARY 1.—**Manchester.**—PLUMBING.—General contractor's and plumber's work in connection with the drainage of houses and other premises, for the T.C. J. Irvine, manager of the Drainage Branch, Public Health Department, Civic Buildings, 1, Mount-street.

FEBRUARY 2.—**London.**—SURFACING.—With broken granite and grouting with bituminous grout the carriageway of a portion of Barnsbury-street, N.1, for the Islington B.C. Borough Engineer.

FEBRUARY 2.—**Swansea.**—REPAIRS.—Private street works: Hazlemere-road, Sketty; Frogmore-avenue, Sketty; Slade-road, Newton; Cecil-street; Walters-street; Bohun-street; Millwood-street; Penllila-road; Monterey-street; St. John's-road, for the C.B. J. Richard Heath, Borough Engineer and Surveyor.

FEBRUARY 2.—**Tregaron.** — EMBANKMENT. — Construction of embankment, mains, distribution, and other works in connection with the proposed water supply, for the R.D.C. B. Idris Evans, Clerk.

FEBRUARY 3.—**Birmingham.**—SEWERS.—655 yds. of 8 ft. 6 in. brick and concrete sewers (including 375 yds. in heading), 574 yds. of 84 in. brick and concrete sewers, 645 yds. of 72 in. brick and concrete sewers (including 279 yds. in heading), and 68 yds. of 72 in. cast-iron pipe sewers, for the T.C. H. H. Humphries, M.Inst.C.E., City Engineer and Surveyor. Deposit £2.

FEBRUARY 3.—**Cardiff.**—IMPROVEMENTS.—Street improvement works in Taff-terrace, Radyr, for the R.D.C. W. Farrow, surveyor, Park House, 20, Park place.

FEBRUARY 3. — **Headington.** — DRAINAGE. — Main drainage of Headington Quarry and Littlemore, for the R.D.C. Howard Humphreys & Sons, Consulting Engineers, 28, Victoria-street, Westminster. Deposit £3 3s.

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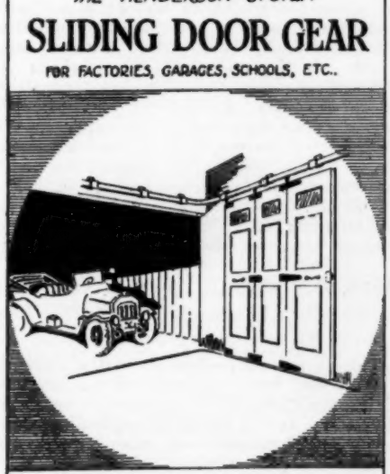

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BARKING, ESSEX. PHONE: EAST HAM 2102.

FEBRUARY 3.—**Hendon.**—SEWER.—Extending the sewer, Uxbridge-road, Hatch End, Pinner (approximately 370 yds. of 9 in. stoneware pipes), for the R.D.C. J. B. Willis, Clerk, Edgware. Deposit £1 1s.

✱FEBRUARY 4.—**Dalston, N.**—CONCRETE PAVING.—Of the yard at Gilsold Telephone Exchange, Dalston N., for the Commissioners of H.M. Office of Works, Contracts Branch, King Charles-street, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

FEBRUARY 5.—**Shardlow.**—PIPES.—Water supply for the parishes of Ockbrook, Draycott, Breaston, Elvaston, Chellaston, Shardlow and Aston-on-Trent. The contract will comprise about 1,330 tons of iron castings as follows: 226 tons of 9 in., 133 tons of 8 in., 207 tons of 7 in., 65 tons of 6 in., 20 tons of 5 in., 288 tons of 4 in., and 362 tons of 3 in. diameter pipes, also 29 tons of special castings, for the R.D.C. Elliott & Brown, Chartered Civil Engineers, Burton Buildings, Parliament-street, Nottingham. Deposit £5 5s.

FEBRUARY 5.—**Shardlow.**—WATER SUPPLY.—For the parishes of Ockbrook, Draycott, Breaston, Elvaston, Chellaston, Shardlow and Aston-on-Trent. The contract comprises the laying of 2,755 yds. of 9 in. cast-iron pipes, 1,913 yds. of 8 in., 3,648 yds. of 7 in., 1,434 yds. of 6 in., 575 yds. of 5 in., 11,424 yds. of 4 in., and 18,892 yds. of 3 in. cast-iron pipes, with all appurtenances, and the construction of a concrete reservoir, for the R.D.C. Elliott & Brown, Chartered Civil Engineers, Burton Buildings, Parliament-street, Nottingham. Deposit £5 5s.

✱FEBRUARY 6.—**Various Places.**—PIPELAYING AND BRICKWORK.—Pipelaying alterations and bricklayers' work within the areas of their Kent, Northern, Southern and Western Districts, for the period of twelve months commencing April 1, 1926, for the Metropolitan Water Board. The Chief Engineer, Metropolitan Water Board, 173, Rosebery-avenue, E.C.1., by personal application (Room 156), or upon forwarding a stamped addressed brief envelope.

FEBRUARY 9.—**Featherstone.**—ROAD.—Making o roads, and laying of sewers and water mains, in connection with the erection of the second section of 50 houses on the Council's housing site at Streethouse, for the U.D.C. Samuel Chesney, A.R.I.B.A., surveyor. Deposit £2 2s.

FEBRUARY 24.—**Rawmarsh.**—ROAD.—Forming a new 80 ft. wide roadway, a new low-level roadway, also kerbing, channelling, and flagging, &c., surface water drainage, manholes, and gullies; the excavation of about 180,000 cubic yards of material through a hill, and deposing in the adjoining valley of Warren Vale, to form new road gradients, and erection of a reinforced concrete bridge and culverts, and incidental work, for the Rawmarsh U.D.C. and the Swinton U.D.C. J. A. Tonge, Engineer to the Rawmarsh U.D.C., Council Offices, Parkgate. Deposit £3.

Competitions.

See Competition News page 144.)

Auction Sales, Tenders, etc.

JANUARY 25.—**Newmarket.**—Woodward & Woodward will sell, on the site, Cheveley Mansion, two miles from Newmarket, large quantity of building material arising from the demolition of the mansion. Auctioneers, Station-road, Stowmarket.

JANUARY 26. — **London,** — Veryard & Yates will sell, without reserve, at 255, Clapham-road, S.W., stock of timber fittings and building materials. Auctioneers, 365, Norwood-road, S.E.27.

JANUARY 27. — **Foots Cray, Kent.** — Veryard & Yates will sell, without reserve (near "Black Horse," Sidcup), at Mr. Readhead's Farm, Mount Culver, useful timber and building materials. Auctioneers, 365, Norwood-road, S.E.27.

JANUARY 28.—**Eltham.**—F. H. Clark will sell, without reserve, at Mars-avenue, Well Hall-road, S.E., timber and building materials, &c., recovered from demolition of Admiralty temporary buildings, Whitehall. Auctioneer, Mars-avenue, Well Hall-road, Eltham, Kent.

JANUARY 28. — **London.** — Henry Butcher & Co. will sell, by order of the Receiver, Joseph Stephenson, Esq., O.B.E., at the London Auction Mart, 155, Queen Victoria-street, E.C.4, the beneficial interest in the lease of the land and buildings known as The Standard Concrete Machine Works, Northfleet, together with plant, machinery and equipment. Auctioneers, 63 and 64, Chancery-lane, W.C.2.

JANUARY 28. — **London.** — Veryard & Yates will sell, without reserve, by order of Metropolitan Asylums Board, owing to completion of Tooting Bec Hospital extension, Tooting, S.W.17, surplus builders' plant and fittings, useful ironmongery, Petter engines, &c. Auctioneers, 365, Norwood-road, S.E.27.

JANUARY 29.—**Essex.**—Fuller, Horsey, Sons & Cassell will sell, in lots, on the premises, at the Manor Brick and Tile Works, New Thunderaley, near Benfleet, by order of the Administrator, brick and tile plant, also materials of the buildings. Auctioneers, 11, Billiter-square, E.C.3.

FEBRUARY 23. — **London.** — Hampton & Sons will sell (in conjunction with G. E. Sworder & Sons), at the St. James' Estate Rooms, 20, St. James'-square, S.W.1 (unless previously sold), in one or five lots, freehold residental property known as "Westfield House," Bishops Stortford, with vacant possession, together with building land. Auctioneers, 20, St. James'-square, S.W.1.

✱MARCH 5.—**Norwich.**—Messrs. Spelman have received instructions from the executors of the late Mr. E. W. D. Potter to sell, at the "Royal Oak," Norwich, in lots: (1) Freehold property, stonemason's yard, with office and house, as a going concern; (2) stabling; and (3) house and gardens. Auctioneers, Norwich and Great Yarmouth.

Public Appointments.

JANUARY 25.—**Barking.**—Clerk of Works required for the proposed Central School in their district, for 640 children, by the Barking Education Committee. J. Compton, Director of Education, Education Offices, Barking, Essex.

✱JANUARY 27.—**Oldham.**—Junior Architectural Assistant in the Borough Engineer and Surveyor's Department required by the B.C. J. Ashurst, Borough Engineer and Surveyor. Town Hall, Oldham.

✱JANUARY 29.—**London.**—First-class Architectural Draughtsman in the Department of the Engineer-in-Chief required by the Metropolitan Asylums Board. Clerk to the Board, Victoria Embankment, E.C.4.

✱JANUARY 30.—**Hayes, Middlesex.**—Temporary, Draughtsman to assist in the preparation of the Town-planning Scheme. D. C. Fidler, Engineer and Surveyor, Town Hall.

✱FEBRUARY 1.—**New Malden, Surrey.**—Clerk of Works required by the Maldens and Coombe U.D.C. for a period of nine months, to supervise erection of flats in concrete block construction. R. H. Jeffes Architect, Council Offices, New Malden, Surrey

FEBRUARY 1.—**Yeovil.**—Clerk of Works to superintend the erection of new municipal offices, public library, and museum, at Yeovil, required by the B.C. Town Clerk.

✱FEBRUARY 8.—**Crewe.**—Town-Planning Assistant in the Borough Engineer's and Surveyor's Department required by the B.C. E. G. Timbrell, B.Sc., A.M.I.C.E., Municipal Buildings, Crewe.

✱FEBRUARY 8.—**Johannesburg.**—LECTURER.—To act as Head of the Department of Art and Architecture required at the Witwatersrand Technical Institute. The Secretary, Office of the High Commissioner for the Union of South Africa, South Africa House, Trafalgar-square, W.C. 2.

FEBRUARY 10.—**Battersea.**—Superintendent of Building Works required to work under the Borough Engineer and Surveyor, by the Borough Council. Borough Surveyor, Town Hall.

ELECTRICAL CONTRACTORS' ASSOCIATON

On Tuesday evening, January 19, the annual dinner of the Electrical Contractors' Association, with which is incorporated the N.E.C.T.A., Ltd., and the National Federated Electrical Association, was held at the Trocadero Restaurant, Piccadilly-circus, W. A company of about 160 sat down to dinner.

After "The King," the toast of "The Allied Associations and Honorary Officials" was proposed by Mr. W. W. Sackie, C.B.E., and responded to by Mr. T. E. Alger (Chairman), who said that in a recent speech the Prime Minister had spoken of the electrical scheme to be introduced into Parliament; this would mean a great impetus to the industry. Mr. Baldwin remarked on the slow progress England was making in comparison with other countries—it had suffered from lack of standardisation. Until recently there had been very few municipal exhibitions, and what there had been were very inadequate. Now there was an Electrical Development Association, and municipal authorities were giving more frequent and more complete exhibitions. They were informed that shortly an abundant supply of electricity was to be available. It was desired to put electricity on a sound basis; it was necessary to see that the installation contractors were efficient, so that they could be assured that the commodity was installed in a manner immune from danger. To this end all contractors ought to register themselves. The Chairman hoped that in time registration would become compulsory; this was what the Association stood for. A conference was to be held at Brighton this year, but details of this would be issued later.

Mr. Walter Riggs proposed the toast of "The Guests," which was responded to by Sir Hugo Hirst, Bart., chairman of the General Electric Co., Mr. R. A. Chattock, and Col. R. K. Morcom.

The toast of "The Electrical Trades' Benevolent Institution" was proposed by Mr. R. Robson and responded to by Mr. J. Y. Fletcher.

Mr. R. A. Parsons proposed the toast of "The Chairman."

Bradford's Proposed Commerce House.

A new chamber of commerce is to be erected in Bradford, at an estimated cost of £60,000. Mr. Eric Morley (of W. J. Morley & Son, architects, Bradford), has prepared the plans for the building, which is to be in the Italian Renaissance style

BOOKS.

The Concrete Year Book, 1926. Edited by Dr. OSCAR FABER, O.B.E., D.Sc., and H. L. CHILDE. (London: Concrete Publications, Ltd.) Price, 2s. 6d. net; by post 3s.

WE have received the new edition of this well-arranged and useful volume, which has been extended to over 400 pages, divided into three sections—handbook, directory, and catalogue. The "Year Book" is now in its third year, and it has established itself as a standard work of reference for those connected with the concrete industry, which is not surprising, judging from the information it contains. Following the object the editors have in view of putting on record in one volume all the results of researches into reinforced concrete, a great deal of the matter in the previous edition has given way to new chapters, included in which is a complete specification for reinforced concrete construction. Another useful section of the handbook is that giving drawings and approximate prices for different classes of reinforced concrete construction, which has been commenced in this edition. The data and other information of everyday use to the reinforced concrete designer and contractor has been retained and brought up to date. The directory section has increased considerably in size; it is claimed that this section, which is classified, gives particulars of every business engaged in or catering for the concrete industry at the time of going to press. Another feature of the directory is a list extending to twelve pages of trade names and brands in use in the industry. The catalogue section has also grown, and now includes 200 pages of announcements relating to businesses and products used in the industry.

Atmospheric Pollution. By the Meteorological Office, Air Ministry. (London: H.M. Stationery Office.) Price 5s. 6d.

The eleventh annual report of the Committee for the Investigation of Atmospheric Pollution has just been issued. The contents are divided into four sections, the first of which deals with the deposit of impurity at forty-eight different stations. Tables are given showing the stations with the highest and lowest deposits for the year ending March 31, 1925, compared with a general average for the same stations for the previous five years. Section 2 deals with the automatic recorder for suspended impurity, and some very interesting results are given for Blackburn and Stoke-on-Trent. The effect of wind in governing the concentration of impurity is also dealt with at some length. Section 3 describes methods of combatting dust in different countries. There are also observations on settlement during smoke fogs, and a new explanation is give of the causation of the "London Particular." In Section 4, the special researches undertaken by the Committee are described. Copies of this publication are obtainable from all branches of H.M. Stationery Office, or through any bookseller.

Resistance of Materials. By F. B. SEELY, M.S. (London: Chapman & Hall.) 1925. Price 18s. 6d. net.

This is a useful addition to the students' library, and being the work of an American University Professor, it contains more references than usual to the practical application of his results. The analysis of most problems in elasticity require the use of assumptions in order to obtain a solution, and the author frequently explains how these assumptions limit the use of the resulting formula in actual practice. The method of treatment is good, and much directness of thought is obtained by the judicious use of the Calculus, combined with geometrical figures, and most students to-day will find the book easy reading. University students should find it useful for alternative methods of presentation of difficulties are frequently very useful in grasping the application of mechanical principles.

PATENTS.

APPLICATIONS PUBLISHED.*

215,774.—Soc. Veuve Bonnet, Ainé, et Ses Fils: Machines for moulding building blocks.

222,092.—G. J. M. Leicknam: Processes and apparatus for depositing concrete under pressure.

227,419.—E. Douzal. Artificial wood.

228,847.—Granite Manufacturing Co.: Composition of matter, hardened, or capable of being hardened, by metallic chlorides.

231,129.—R. Ochschim, Sen.: Process for producing surfaces of an extremely brilliant polish or wood.

231,435.—Reed Air Filter Co.: Air-cleaning materials and processes of making the same.

231,811.—Dr. L. Lilienfield: Manufacture of artificial materials.

231,867.—Soc. Lap: Process for the use of mixtures of aluminous cements with ordinary cements.

233,350.—J. M. J. F. F. Lacher-Ravaisson, Mollien: Valve devices for distributing liquids-particularly in water-flushing apparatus.

236,892.—Ternstedt Manufacturing Co. Window regulators.

238,179.—Ransome Concrete Machinery Co.: Apparatus for hoisting and distributing loose material.

238,865.—J. Palanca: Moulds for casting pipes from concrete by the centrifugal method.

240,821.—F. Moreau: Door-fastening devices.

241,130.—W. K. Kaye and J. V. Kaye: Sliding door fastening devices.

241,260.—E. Chaudoir. Lifts.

241,345.—W. Needham. Gulley traps.

241,354.—T. E. Barikoff. Reinforcing members for strengthening window and picture frames, boxes and furniture.

241,364.—C. A. Walker. Methods of building walls.

241,419.—D. Abraham. Woodworking machine.

241,434.—T. Robinson & Son, Ltd., J. C. Robinson, and J. Tweedale. Mortising or boring machines.

241,440.—M. Edslev. Concrete posts.

241,442.—W. M. Simpson and M. T. Macnamara. Method of forming and attaching adjustable and removable bridles to paint brushes.

241,445.—E. W. Simmons. Blocks for building purposes.

241,460.—Dr. A. Gaertner. Hoists.

241,596.—A. Gosden. Tiled roofs.

241,606.—W. M. Connery. Sheet-metal walls.

241,634.—T. Hardy. Building construction.

241,639.—F. G. Norman. Wardrobes or other furniture.

241,643.—W. S. Akerman. Construction of hollow walls.

241,688.—T. L. Fyffe and Fyffe & Co., Ltd. Pipe joints.

241,689.—T. W. Fyffe and Fyffe & Co., Ltd. Pipe joints.

241,712.—H. L. Geveke. Boilers for heating systems.

241,721.—H. K. Bates. Walls and building blocks.

241,724.—I. F. Shellard. Composition for building walls and floors.

241,731.—E. M. Lane. Means for forming concrete blocks.

241,732.—H. Abraham. Roofing shingles.

241,737.—J. Cartland & Son, Ltd., and C. Y. Hopkins. Hinges.

241,753.—W. Schutz. Sheet-metal supports for mortar, plaster, concrete, or the like.

241,762. F. D. Whitaker and T. B. Clapham. Woodworking machines.

241,773.—K. Werner. Method of producing smooth plaster casts and the like by means of sand moulds.

241,778.—A. S. Parkin. Door-hinge and support.

241,787.—F. W. Kellett. Wind-directed ventilator cowls.

* All these applications are now in the stage in which opposition to the grant of patents upon them may be made.

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T for Ministry of Transport; C.B. for County Borough; B.E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board.

ALTRINCHAM.—The Surveyor has submitted plans on the lay-out of the Old Field Brow estate, providing for a further 112 houses.

BALLYCASTLE.—The R.D.C. has adopted a scheme for the provision of labourers' cottages. The scheme is to cost £20,952, providing for the erection of sixty cottages.

BARNES.—Mr. A. C. Rixon is negotiating with the U.D.C. regarding proposals for the development of the Planes estate. An additional cubicle block is to be added at the Isolation Hospital, at a cost of £8,800.

BARNSLEY.—The M.H. has sanctioned the C.B. to borrow £33,800 for the erection of 80 houses (Pontefract-road scheme) and £42,000 for 100 houses, and £42,250 for a further 100 houses (Hunningley-lane, Ardsley, scheme.

BECKENHAM.—The Council are to erect 60 houses on the Shortlands housing estate, and the Surveyor is to be instructed to prepare the drawings and obtain tenders.

BECONTREE.—The L.C.C. recommend that, subject to the approval of the M.H., the site at the junction of Goresbrook-road and Heathway be let to Messrs. J. Kay and B. Cole, for the erection of a cinematograph hall.

BEDFORD.—Mr. S. P. Allen, F.R.I.B.A., 61, High-street, has prepared plans for the enlargement of the Modern School premises in Midland-road for the Harpur Trustees.

BEER (DEVON).—The question of the provision of a harbour for Beer has been further discussed by the Devon Sea Fisheries Committee. The Ministry of Agriculture and Fisheries has presented a report with a proposal for the erection of a sheltering pier on the western side at a cost of something like £40,000 or £45,000.

BILSBOROW.—The members of the Wesleyan Church are raising funds for the erection of a Sunday school.

BLACKPOOL.—The shops now being demolished at the corner of Church-street and Abingdon-street are to be rebuilt as a modern and commodious block. The architects are Lumb & Walton, of Clifton-street.

BOLTON.—The scheme for extensions at the Hacken Sewage Works has been approved, which is to cost about £132,000.—The Trinity Wesleyans have a scheme in hand for the extension of the Sunday school upon a site at the rear of existing building at Tonge Fold.

BRADFORD.—The T.C. has approved plan and estimate amounting to £1,650 for the erection of new bank premises in St. James's Market for the Midland Bank Ltd.—The City Architect has been instructed to obtain tenders for the erection of twelve houses and shops on the Bradford Moor housing site and for sixteen houses and shops on the Bierley housing site. The Housing Committee has approved an estimate of £66,000 for the carrying out of street works and drainage on the Eccleshill housing site.—The approval of the M.H. has been received for the borrowing of over £30,000 for the erection of 74 additional houses at Bradford Moors. Arrangements have been made for the acceptance of a tender for the building of 482 additional houses on the Lower Grange estate.

BRIDLINGTON.—The M.H. has sanctioned £46,000 for the new spa buildings at Bridlington, including a concert and dance hall.

BRIGHOUSE.—The West Riding E.C. recommend that a new secondary school to accommodate 350 boys be provided.—The West Riding Highways Committee recommend the spending of £400 in partially rebuilding Brookfoot Bridge, which carries the Brighouse, Elland, and Obelisk main road over Red Beck.

BRISTOL.—The T.C. are to build large police station and fire brigade premises at a cost of £110,500, to plans prepared by Ivor Jones & Percy Thomas, architects, 6-7, St. John's-square, Cardiff.

BURY.—Messrs. Taylor & Nickolson are to transfer their works to Walmersley. New buildings and alterations to existing works are to be undertaken. The architects are Sellers, Son & Orrell, of Union-street.

CANTERBURY.—The T.C. recommend that application be made to the M.H. for sanction to erect a further 20 parlour-type houses fronting Mandeville-road and two non-parlour type houses fronting Forty Acres-road.

CARDIFF.—In addition to the £17,000 as purchase price of the premises for the purposes of a showroom and offices for the Cardiff Electricity Department, £19,000 is to be spent on alterations and conversions for the premises.—The Corporation area pplying for a grant of £40,000 for the work of filling up the Maindy Pool.

CHADDERTON.—The D.C. are proposing to erect 70 houses on Burnley-lane and Denton-lane sites to the plans and specifications of the Surveyor.

CLITHEROE.—The E.C. recommend a site in Brownlow-street for the erection of a new upper standard school.

COLERAINE.—The E.C. has adopted a recommendation to build a new workshop at the technical school, at an estimated cost of £2,000.

COLNE.—The T.C. have decided to adapt the Colne Cottage Hospital as a Maternity Home.

CONISBOROUGH.—The West Riding E.C. recommend that, in accordance with the recommendation of the District Sub-Committee, a caretaker's house be provided at the Middle School, at an estimated cost of £650.

CUCKFIELD.—The U.D.C. has approved a scheme for the erection of 22 cottages at London-lane. Plans prepared by R. Leake, architect.

DARLINGTON.—The R.D.C. has decided to make application to the M.H. for a further loan of £7,500 for housing.

DERRY.—The Corporation has accepted a Nottingham tender at £62,718 for pipes for waterworks scheme at Banagher.

DEWSBURY.—The C.B. approved the resolution of the Dewsbury Joint Hospital Board for the Borough Surveyor to prepare plans required for an extension of the administrative block at the Isolation Hospital, and for the reconstruction of the Smallpox Hospital.

DONCASTER.—The West Riding E.C. recommend that a room at the Girls' High School be converted into a Physics Laboratory, and the necessary equipment supplied, at an estimated cost of £210.

DORCHESTER.—The Corporation are to enlarge the fire station at a cost of £326.

DOUGLAS (I.O.M.).—A site on the north end of the Promenade is suggested for the erection of conveniences. In association with the Auto Cycle Union, the Borough Engineer has prepared plans for a new race stand, providing accommodation for from 1,000 to 1,500 spectators, and tenders are to be invited. Mr. J. E. Teare is to prepare plans for houses to be erected on various places in the town.

DUKINFIELD.—The M.H. has given sanction for the erection of cottage houses on land bounded by Zetland-street, Combermere-street and Spencer-street. A new domestic science centre on land adjoining Technical School in Town-lane has been planned by the Borough Surveyor.

EASTBOURNE.—The important additions to be made to the Guardians' institution include a new infirmary, to cost over £20,000, a temporary chapel, and heating installation.

EXMOUTH.—The Foreshore Committee has decided to invite tenders for the erection of a refreshment pavilion on the site near the Foxholes. The Committee also recommend the erection of two shelters on the north side of the Marine-drive, in accordance with the plans prepared by the surveyor.

FALMOUTH.—A site has been found at Park-terrace for a new parish hall for the congregation of All Saints. Plans of the new building have been prepared, and the cost is estimated at £5,000.

FEATHERSTONE.—The Featherstone Rovers are to erect a new Grand Stand on their football ground at an estimated cost of £2,500.—The U.D.C. has approved of plans prepared by the Surveyor for the erection of houses on the Streethouse site.

FINCHLEY.—The Rev. J. C. Joyce has secured a site in Bow-lane for the erection of a Roman Catholic school. Plans passed by the U.D.C.: 25 houses, Court House-road, for P. D. Walker.

FOLKESTONE.—The Borough Engineer estimates the cost of extending the intercepting sewer from the "Black Bull" to Cherry Garden-avenue at approximately £35,220.—Plans passed: Nine pairs of flats in Ivy-way, for the Corporation.—The T.C. decided to build a cricket pavilion on the new sports ground, at a cost of £6,800.

GLASSBOUGHTON.—The West Riding E.C. recommend building a caretaker's house at the Ashton-road Council school, at a cost of £550.

GLAZEBURY.—Eighteen houses are to be erected on the site of the Old Albion Mill.

GOOLE.—The West Riding E.C. recommend that electric lighting be installed in the Secondary School, at an estimated cost of £380.—The B.E. has approved the plans of the proposed extensions at the Secondary School, at an estimated cost of £17,185.

GRAVESEND.—The Corporation are to borrow £2,500 for the erection of conveniences. In connection with the provision of additional accommodation the Corporation are taking steps to form a joint hospital board for Gravesend, Strood and Northfleet. A site near the cemetery is being secured for a housing scheme.

HALIFAX.—The West Riding C.C. recommend that, subject to satisfactory contributions from Central Funds and from the Aire and Calder Navigation, the West Riding Highways Committee be authorised to contribute a sum of not exceeding £20,000 towards the cost of widening and reconstructing Cooper Bridge and Cooper (Canal) Bridge, which bridges carry the Dewsbury and Elland main road over the River Calder and the waterway of the Aire and Calder Navigation.

HANWELL.—The U.D.C. are considering the use of land in Cumberland-road as a housing scheme. The aid of the M.H. is to be sought for the acquisition of a site for the erection of a public convenience.

HARROGATE.—The T.C. are to make application to the M.H. for sanction to borrow £6,000 for the erection of 30 houses.

HAWORTH.—The U.D.C. Surveyor is instructed to prepare plans for the erection of 18 houses and to invite the tenders for the various works.

HAYWARDS HEATH.—The U.D.C. are negotiating for the acquisition of 14 acres on the Oathall estate for a housing scheme.

HEMSWORTH.—The West Riding E.C. recommend the erection of a caretaker's house at Hemsworth Four Lane Ends proposed new school, at an estimated cost of £550.

HIGHBRIDGE.—The plans and specifications as prepared by the surveyor and architect have been approved for 16 houses on the Burnham-road.

HORLEY.—Arrangements are being made by the Surrey C.C. for acquiring the land for the scheme for the reconstruction of Bonehurst Bridge.

HORSHAM.—The Surrey Territorial Army Association are to erect a drill hall on the territorial football field.

HYDE.—The scheme for the erection of a new Central School has been approved; the accommodation will be for 480 children, at the cost of from £16,000 to £20,000.

KEIGHLEY.—The Corporation propose to erect more houses of the working class type on the Broomhill estate at an estimated cost of £9,524, for which the M.H. has sanctioned the necessary borrowing powers.

KINGSTOWN.—The Construction Committee has adopted plans for the erection of lavatory accommodation near Windsor-terrace at an estimated cost of £1,000, and extensive accommodation at East Pier entrance, at a cost of about £450.

KIRKHAM.—The Working Men's Club has decided to erect new premises; the plans have been approved.

LEEK.—Plans have been prepared by Mr. W. Ingham, 2, Church-street, and Mr. J. R. Piggott, Clarence-street, Stoke-on-Trent, associated architects, for the erection of a large dye-works and silk mill at Ball Haye Green, for Messrs. Clemesha Bros. & Brick, silk manufacturers, Leek.

LIMPSFIELD.—The Godstone R.D.C. has prepared a scheme for the erection of 20 houses at Red-lane.

LITTLEBOROUGH.—The M.H. has approved the D.C. scheme to erect 20 more houses on Calda Brook-road site. The Surveyor has been instructed to prepare plans, and tenders are to be obtained.

LONDON (DOWNHAM).—The L.C.C. Education Committee has arranged for the provision of six elementary schools on the Downham housing estate.

LONDON (LAMBETH).—The M.A.B. recommend that, subject to the sanction of the M.H., and to the consent of the Lambeth B.G., approval be given to the extension, at an estimated cost of £170, of the lavatory accommodation in the yard at Lambeth Casual Ward.

LONDON (LEWISHAM).—The B.C passed plans: Thos. H. Sawyer & Son, Ltd., 21 houses, Shell-road; J. G. Stephenson, for L.C.C., Central School, Rangefield-road, Downham estate; G. Watt, 16 houses, Polstead-road; J. G. Stephenson, for L.C.C., 72 houses, Downham estate; Eaglen Bros., 15 houses, Ashwater-road.—The B.C. has decided to seek Parliamentary powers for the erection on the site of the Highways Depot and of the old Fire Station, Rushey Green, of a new town hall.

LONDON (SHOREDITCH).—The L.C.C. recommend that, subject to the B.E. grant, erection of an elementary school on the Crondall-street site be approved.

LONDON (STROUD GREEN).—The United Dairies, Ltd., are to erect a large depot in Regina-road.

LONG DITTON.—Ten houses are to be built by the U.D.C., at a cost of £548 each.

MALTBY.—The West Riding E.C. recommend that, in connection with the provision of the New School, special rooms be provided in the school and adapted so as to make provision for Middle School classes for each Department, at an additional estimated cost of £6,000.

MANCHESTER.—Funds are being raised for the erection of a new Church of St. Dunston's, for the Rev. J. M. Routledge.

MEXBOROUGH.—The West Riding E.C. recommend that extensions be carried out at the Secondary School, in accordance with the plans approved by the Committee, at an estimated cost of £24,000.

MIDDLETON-IN-WHARFEDALE.—The Public Health and Housing Committee recommend that a nurses' hostel be provided at the Sanatorium at an estimated cost of £14,249; Medical Superintendent's house, at an estimated cost of £1,917, and eight houses, at an estimated cost of £6,361.

NANTWICH.—The engineer to the D.C. is preparing plans for the construction of a proposed new reservoir at Burland.

NANTYMOEL.—Glamorganshire E.C. are negotiating for a site for the erection of an elementary school.

NEWBURN.—The U.D.C. has decided to erect 58 houses at Westerhope.

NEWCASTLE.—The Corporation Public Libraries Committee has received sanction from the M.H. to build free library premises at Scotswood, at an estimated cost of £13,995. The Licensing Justices have approved plans for the erection of a new hotel on the site of the present Phœnix Hotel, in Newgate-street; and also for alterations to the Blue Bell Hotel, Jesmond Vale, and the Adelaide Hotel, Minden-street.

NEWPORT (MON.).—Plans have been prepared for the rebuilding of St. Michael's School and have been forwarded to the B.E. for approval.

NORTHEN.—Arrangements are in hand for the erection of a further batch of 60 houses in the district.

OLDHAM.—Plans passed by the C.B.: W. Makin, amended plan of 14 houses, Repton-avenue; S. & J. Smethurst, Ltd., new office and store room over existing garage, Grimbles Brickworks, Booth Hill-lane.

OVENDEN (YORKS.).—Mr. W. Richardson, of Halifax, proposes to erect 54 houses on the Exley Gardens site, in accordance with plans and arrangements with the Halifax Corporation.

OXFORD.—Plans have been prepared by North, Robins & Wilsdon, architects, 35-39, Maddox-street, W.1, for the erection of business premises, shops and offices, in Broad-street, for Mr. A. Pearson, of The Arcade, Corn Market. The cost will be about £20,000.

PAINHAM.—The D.C. propose to erect 50 houses on the Dryden-street site.

PAIGNTON.—The U.D.C. has appointed a committee to discuss with the District Hospital Committee a site for the erection of another hospital. The Rev. B. R. Wilkinson is seeking a site at Preston for the erection of a Wesleyan Church. Plans have been prepared for centrally heating the Public and Badminton Halls.

PELLETSTOWN.—Sanction has been given to spending about £11,000 on improvements at Pelletstown Auxiliary Workhouse.

PENWERTHAM.—Funds are being raised by the members of the Wesleyan Church for the erection of new Sunday schools, at the cost of about £3,000.

* See also our List of Contracts, Competitions, etc.

PENZANCE.—The Corporation has authorised the Borough Surveyor to proceed with repairs to the banks of the reservoir. Repairs to the dock gates are to be undertaken at a cost of £2,000.

PINNER.—A sum of £5,000 is required for the St. Anselm's Church new parish hall.

PLYMOUTH.—The St. Augustine's Church authorities proposed to complete the edifice by building the western end of the nave at a cost of about £4,000. Plans have been prepared by C. King, architect, Princes-square.

PONTEFRACT.—The West Riding E.C. recommend the purchase of a site for new buildings for the Pontefract King's School.

PORTSLADE.—The U.D.C. has asked the Surveyor to prepare a revised scheme for the provision in the first place of a destructor and then the provision of baths.

RAWMARSH.—The West Riding C.C. recommend that a Junior Mining Course Centre be provided for Rawmarsh, at an estimated cost of £2,900.

ROTHWELL.—The West Riding E.C. recommend the purchase of a site for the erection of a school.

SALTBURN.—The members of the Catholic Church are raising funds for the erection of a new church, for which a site has already been secured.

SELSDON.—A site at Selsdon Park has been purchased by the Bishop of Southwark for the erection of a Roman Catholic church.

SHEFFIELD.—The Provincial Cement Co., Ltd., has a scheme on hand for the erection of a new Cinema on a site near the Town Hall.

SHREWSBURY.—The Town Council have approved a £15,000 scheme for extending the electricity works.

SOUTHALL-NORWOOD.—The U.D.C. has received th sanction of the M.H. for the erection of a further 50 houses.

SOUTH ELMSALL.—Plans have been approved for the erection of a new fire station on a site near Moorthorpe Police Station to cost £1,500.

SOUTHGATE.—Plans have been prepared by the L.C.C. for the erection of a hospital villa at Colney Hatch Asylum, Southgate.

SOUTH KIRKBY.—The West Riding E.C. recommend that a Junior Mining Course Centre be provided, at an estimated cost of £2,900.

SOUTH MOOR.—The Holmside and South Moor Collieries Co., Ltd., have given a site for the erection of 10 aged mine workers' homes at South Moor.

SOUTH SHIELDS.—The M.H. are to hold an inquiry into the proposal to construct a convenience at Cleadon Park estate at a cost of £5,600. A special committee are considering the erection of a sanatorium and an infectious diseases hospital at Cleadon Park. A convenience is to be erected on the South Foreshore at a cost of £400. Premises are to be acquired for the extension of the offices of the electricity department. Additional class room accommodation is to be provided at Cleadon Park infants' school. A site at Cleadon Park is being purchased for the erection of an elementary school. The Borough Engineer is preparing plans for the proposed new school of art. The Borough Engineer has prepared a lay-out of land in Salisbury-place for the erection of 70 houses. The M.H. are to hold an inquiry into the proposed construction of a relief culvert, at a cost of £25,000.

STOCKPORT.—Drawings have been prepared for offices, waiting room and parcels office in Mersey-square, with shops and showrooms above, with access from Wellington-road South, at an estimated cost of £14,000, for the Tramways Committee. The B.G. are proposing to make extensions to the Nurses' Home, Shaw Heath. Architects, Messrs. Peirce & Son, 3, St. Peter-gate.

STOCKTON HEATH.—The Parochial Church Council have under consideration the building of a Church Hall.

SURBITON.—Fifty houses are being built by the Council.

SWANSEA.—Rev. J. Tobin is appealing for funds for the erection of a new church to be erected in Town Hill, and estimated to cost £3,000.

TAVISTOCK.—The R.D.C. has received permission from the M.H. for building 28 houses in the parishes of Meavy, Bere Alston, Petertavy, Walkhampton and Buckland.

THORNE.—The West Riding E.C. has approved plans for the erection of new buildings at Thorne, and recommend that the new school buildings to accommodate 270 pupils on the site provided by the Governors of the Thorne Grammar School, be proceeded with, at an estimated cost of £40,000.

TOTTINGTON.—The D.C. has decided to proceed with their housing scheme, non-parlour type, on the Walshaw site. Twelve houses (in pairs) are to be erected.

TRALEE.—The U.D.C. has adopted plans submitted by the Town Surveyor, for the erection of 16 houses on The Green.

WATH-UPON-DEARNE.—The West Riding E.C. recommend the purchase of a site for the proposed secondary school. Plans of the proposed new buildings have also been considered, and the Committee recommend that the erection of the new secondary school be approved, at an estimated cost of £45,700, and the erection of a caretaker's house, at an estimated cost of £750, and also new boundary walls and repairs to existing boundary walls at an estimated cost of £1,160.

WEXFORD.—The C.C. has decided to borrow £7,000 for rebuilding Wexford Courthouse.

WORTHING.—The large block of buildings known locally as "The Corner," has been acquired by Messrs. W. H. Smith & Son for the erection of a branch. Plans will be prepared by the company's architect, Mr. F. Bayliss, F.R.I.B.A.

YEOVIL.—The T.C. has decided to enter into a provisional contract to purchase six fields, of a total area of 26,007 acres, for housing purposes.

FIRES

KINGSTONRIDGE.—The Country Club Hotel, on the Kingstonridge estate, near Lewes, has been completely destroyed by fire. The estimated cost of the damage is about £18,000.

TRADE NEWS

A New Cement.

A cement has been put on the market by "Goughs," of Southampton. We understand that this cement is now being used by several county councils, county boroughs, corporations, rural district councils, contractors, concrete manufacturers, &c. This cement is claimed to have no expansion, and the firm, Messrs. Gough's General Distributing Co., Ltd., of Southampton, are prepared to guarantee in writing that it is 50 per cent. better than the old British Standard Specification and 25 per cent. better than the new.

A Draining Board.

Messrs. Manuel Lloyd & Co., of 56, Mountgrove-road, N. 5, have sent us a leaflet, describing and illustrating their "Clip-on" draining board, which, as its name indicates, clips on to the side of any sink without nailing, screwing, or bracketing. The board is made in one solid piece, of beech, elm, poplar, alder, and teak 17 in. wide, and any length, from price 7s. 6d. It is supplied with or without the self-supporting brackets. The firm also makes a neat folding wall table, folding and rigid plate and dish racks, and a useful "Dryall" attachment for drying clothes in the kitchen.

Rapid-hardening Cement.

We are advised of a reduction in the price of Ciment Fondu. From January 1, 1926, the price will be £4 15s. per ton f.o.r., instead of £6 15s. per ton as mentioned on page 174. The Lafarge Aluminous Cement Co., Ltd., 296-302, High Holborn, W.C.1, has purchased a site at West Thurrock, and has erected works for the British manufacture of their cement. This works is equipped with the most up-to-date British plant and the price reduction announced is a direct outcome of the efficiency of the new machinery, and the elimination of the freightage charges on the importation of the cement.

Electric Lifts.

It was not very long ago that architectural provision for a lift installation was the exception rather than the rule. Nowadays, however, in a building of any size, lifts, either for passenger or goods service, are considered almost as essential as sanitation and heating. This universal adoption is due to the facility they provide being fully recognised, to the reliability with which they can now be operated, and to the greatly decreased cost at which they can be installed. It is interesting to note, therefore, that four electric lifts, manufactured by Messrs. Smith, Major & Stevens, Ltd., have been ordered for the new fire station buildings at Hong Kong, a goods lift for Messrs. Kodak, Ltd., an electric platform hoist for Messrs. Millington & Sons, paper manufacturers, and others for hospitals, banks, clubs, office and works buildings, &c.

The Westminster Bank.

The net profits of Westminster Bank, Ltd., for the past year, after providing for bad and doubtful debts and all expenses, amount to £2,205,393. This sum added to £594,095 brought forward from 1924, makes available the sum of £2,799,488. The dividends, 20 per cent. on the £20 shares, and 12½ per cent. on the £1 shares, absorb £1,319,045. £150,000 has been transferred to Bank Premises Account, £100,000 to Contingent Fund, and £200,000 to Officers' Pension Fund. It is proposed, when the necessary powers have been obtained, to allot to holders of £20 shares on the Register on February 11 next, one fully-paid £1 share (ranking for dividend with the existing £1 shares as from December 31, 1925), in respect of every five £20 shares held, and to make in the case of fractions a payment of 10s. (free of Income Tax) in respect of each fraction of one-fifth of a £1 share, also to add to the Reserve Fund a sum equal to the nominal capital of the shares to be allotted, say £268,439. For this purpose a sum of £572,878 has been set aside. A balance of £457,565 will remain to be carried forward

Safes.

The universal need of safes is especially felt in these post-war days, when outrages against property seem to be becoming more frequent. Further, the means of opening safes followed the inventions of science with such rapid strides that practically no safe over fifteen years old is proof against the modern safe-breaker. It is claimed by the makers that no Ratner improved thief-resisting safe has ever been opened by burglars, and that no Ratner improved fire-resisting safe has ever had its contents destroyed by fire or fall. The imperviosity to this latter danger is due to the twelve-corner-bent construction invented by the firm, by which the safe is bent out of one solid steel plate. In addition to seventeen large safe deposits, we understand that the Company carries out work for 115 different banks, including Lloyds Bank, Ltd.; the Midland Bank, Ltd.; and Barclays Bank, Ltd.; and some forty governments and government departments. The Company's representatives are at any time at the service of architects, engineers, and all prospective customers; and detailed drawings, specifications, and estimates are submitted free of charge. The City offices and showrooms are at 29, Cannon-street, E.C. 4.

The Royal Sanitary Institute.

The Royal Sanitary Institute will celebrate its jubilee by holding an Imperial Congress in London from July 5 to 10, the Right Hon. Neville Chamberlain, M.P., presiding.

Proposed Welsh Steel Works.

The Llanelly Steel Co., Ltd., has decided to construct new sheet and galvanising works, with six mills, on a site adjacent to their existing works. Employment will be provided for several hundred men.

Reviving Blacksmithery.

The steps taken last summer by the Rural Industries Sub-Committee of the Herts County Council, to revive the dying industry of the village blacksmith, by the organisation of an exhibition of smiths' work at the County Agricultural Show at Hatfield, met, we are informed, with real success. Over 80 exhibits were sent by local smiths, many being purchased by the public, and subsequently many repeat orders were received and much new business created. In order to create interest among the youths in the blacksmith's craft, the County Education Committee are organising a series of practical demonstrations at local forges, which will be attended by the older boys of the elementary schools.

Accelerated Heating.

At the meeting of the Institution of Heating and Ventilating Engineers (Incorporated), held on January 6, at Caxton Hall, Westminster, Mr. J. R. Preston, in the course of a lecture on this subject, said: "How quickly the radiators get hot," was a remark often made with steam-heating installations, but to-day this also applied to hot-water heating. The small amount of water held by modern radiators, coupled with comparatively small pipes, possible with an accelerated system, made it possible, if sufficient boiling power was provided, to get the heat round very quickly. Accelerating the flow of water in heating installation had been practised for a considerable time by a limited number of engineers, but it was only within the last 20 years it had become general. For several years various systems dispensing with mechanical power were used, but these, though excellent as some of them were, had in this country gradually given way to electrically- or steam-driven pumps, mostly because of the simplicity of positive action provided by them, and also the almost universal supply of electricity. In the paper, which embodied some tests taken on an actually commercially designed installation, he showed the short time taken to heat up the installation from cold, and considered the question of design of an accelerated installation and the efficiency of pumps.

PRICES CURRENT OF MATERIALS

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by nquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge. £ s. d.

Best Stocks 4 3 6
Second Hard Stocks 3 18 6

Per 1,000. Delivered at London Goods Stations.

Flettons, at	£ s. d.		£ s. d.
King's Cross	2 13 3	Best Blue Pressed Staffs	9 5 0
Do. grooved for Plaster.....	2 15 3	Do. Bullnose ..	9 15 0
Do. Bullnose	3 8 3	Blue Wire Cuts	7 5 0

Best Stourbridge Fire Brick :—
2½ in. ..... 8 11 0 3 in. 10 3 0

GLAZED BRICKS—

Best White Ivory, and Salt Glazed Stretchers ..	21 10 0	D'ble Str'tch'rs	30 0 0
		D'ble Headers	27 0 0
		One Side and two ends	31 0 0
Headers	21 0 0	Two Sides and one End	32 0 0
Quoins, Bullnose and 4½in. Flats	28 0 0	Splays and Squints	29 10 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.
Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. „ „	2 4	4 in. „ „	3 6

	s. d.	
Thames Ballast	10 6	per yd.
Pit Sand	13 9	„ „
Thames Sand	14 6	„ „
Best Washed Sand	14 6	„ „
¾ in. Shingle for Ferro-Concrete	12 9	„ „
¾ in. „ „	14 0	„ „
¾ in. Broken Brick	11 6	„ „
Pan Breeze	7 6	„ „

delivered 2 miles radius Paddington.

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test £2 18 0 to £3 3 6
51s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0	10	0
Super Cement (Waterproof)	4	8	0
Roman Cement	8	15	0
Parian Cement	5	15	0
Keene's Cement, White	5	15	0
„ „ Pink	5	10	0
Plaster, Coarse, Pink	3	0	
„ „ White	3	12	6
„ Fine	5	12	0
Sirapite, Coarse	3	9	0
„ Finish	3	17	0
Grey Stone Lime	2	11	9
Chalk Lime	2	11	9
Best Ground Blue Lias Lime	2	4	6
Hair	32	0	0
Granite Chippings	1	12	0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dp.

STONE.

BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube.... s. d. 2 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube..... 2 11½

PORTLAND STONE—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube..... 4 4
Do. do delivered on road wagons at above stations, per ft. cube..... 4 5
White basebed, 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.

HOPTON-WOOD STONE—
Delivered at any Goods Station, London. s. d.
Small random blocks, up to 10 ft. cube. P. ft. cb. 7 0
Random blocks from 10 ft. and over „ 17 0
Sawn two sides..... „ 27 0
Sawn three or four sides..... „ 32 0

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London. s. d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) ..... Per ft. super 5 6
6 in. rubbed two sides, ditto..... „ 6 0
3 in. sawn two sides slabs (random sizes) „ 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) ..... „ 1 6½
1½ in. to 2 in. ditto, ditto..... „ 1 4

HARD YORK—
Delivered at any Goods Station, London.
Scappled random blocks ..... Per ft. cube 6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) ..... Per ft. super 5 1½
6 in. rubbed two sides, ditto ..... „ 6 1½
4 in. sawn two sides slabs (random sizes) „ 2 10
3 in. ditto ditto „ 2 1½
2 in. self-faced random flags.... Per yd. super 9 0

ARTIFICIAL STONE.

Delivered in London Area in full van loads, per ft. cube :—Plain, 8s. 6d. ; Moulded, 9s. 6d. Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11..	£28 0	3 × 6	£21 0
4 × 9	25 0	3 × 11	25 0
4 × 8	24 0	2 × 11	25 0
4 × 7	23 0	3 × 9	24 0
3 × 8	21 0	2½ × 9	23 0
3 × 7	20 0	3 × 4½	22 0
2½ × 7	20 0	3 × 4	22 0

PLANED BOARDS.

1 × 11 ..... £27 0 | 1 × 9 ..... £26 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	20/-	1½	31/-
1	22/-	1¾	34/-
1	25/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.	Inches.	per sq.
1	25/-	¾	16/6
1¼	31/-	¾	19/-
1½	34/-	1	24/-

MATCHING (BEST).

BATTENS.

Inches.	s. d.
¾ × 2	2 6 per 100 ft.

SAWN LATHS.

Per bundle 0 2 4

1" AND UP THICK.

	£ s. d.	£ s. d.
Dry Austrian Wainscoat, per ft. cube	0 16 0 to	0 18 0
Dry American and /or Japanese Figured Oak, ft. cube	0 15 0 to	—
Dry American and/or Japanese Plain Oak, ft. cube	0 11 0 to	0 13 0
Dry sq. edged Honduras Mahogany, ft. cube	0 16 0 to	0 18 0
Dry Log cut Honduras Mahogany, ft. cube	0 18 0 to	1 1 0
Dry Cuba Mahogany, ft. cube..	1 4 0 to	1 10 0
Dry Teak, ft. cube	0 13 0 to	0 15 0
Dry American Whitewood, ft. cube	0 11 0 to	0 14 0
Best Scotch glue, per cwt.	4 10 0 to	—
Liquid Glue, per cwt.	4 7 0 to	5 10 0

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

Per 1,000 f.o.r. London.

		£ s. d.
Best machine-made tiles from Broseley or Staffordshire district		5 12 6
Ditto hand-made ditto		5 17 6
Ornamental ditto		6 2 6
Hip and valley tiles (per dozen)	Hand-made	0 9 6
	Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.
To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	12 0 0	⅜ in. to ½ in ..	10 15 0
½ in.	11 0 0	⅝ in. to 2½ in...	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Black Gas	60 % ..	50% ..	60%
Galvanised Gas	45 % ..	40% ..	50%
Blue Water	55 % ..	45% ..	55%
Galvanised Water	38½ % ..	35% ..	45%
Red Steam	50 % ..	40% ..	50%
Galvanised Steam	32½ % ..	30% ..	40%

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/2½	11½d.	3½d.
3½ in.	1/4	1/0½	3½d.
4 in.	1/5	1/2½	3½d.
4½ in.	1/6½	1/4	4½d.
5 in.	1/9½	1/5½	5½d.
O.G. GUTTERS.			
3 in.	1/7	1/3½	3½d.
3½ in.	1/7	1/3½	3½d.
4 in.	1/8½	1/4	3½d.
4½ in.	1/10½	1/6½	4½d.
5 in.	2/3	1/9½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/9½	1/2½	1/8½
2½ in. „	1/11½	1/4	2/0½
3 in. „	2/4½	1/8	2/6
3½ in. „	2/10	2/-	2/10½
4 in. „	3/3	2/4½	3/6

L.C.C. COATED SOIL PIPES—London Prices, ex Works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6fts. plain	2 11 ..	2 3 ..	2 9
2½ in. „	.. 3 5 ..	2 6 ..	3 5
3 in. „	.. 4 1 ..	2 9 ..	4 0½
3½ in. „	.. 4 5½ ..	3 5 ..	4 8½
4 in. „	.. 4 11½ ..	3 9½ ..	5 5½

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

	Pipe.	Bends, stocks angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9ft. lengths	4 3 ..	5 9 ..	7 8
4 in. „ „	.. 6 3 ..	6 11 ..	9 6
5 in. „ „	.. 7 10 ..	12 0 ..	16 3
6 in. „ „	.. 9 6 ..	15 0 ..	20 9

Gasken for jointing, 38/6 per cwt.

	Per ton in London. £ s. d.		£ s. d.
IRON—			
Common Bars	13 0 0 to	14 10 0	
Staffordshire Crown Bars—good merchant quality	14 5 0 ..	15 5 0	
Staffordshire "Marked Bars	16 5 0 ..	17 5 0	
Mild Steel Bars.....	10 0 0 ..	11 0 0	
Steel Bars. Ferro-Concrete quality, basis price	10 0 0 ..	11 0 0	
Hoop iron, basis price	12 0 0 ..	13 0 0	
„ Galvanised	27 0 0 ..	28 0 0	
Soft Steel Sheets, Black—			
Ordinary sizes to 20 g..	13 5 0 ..	14 5 0	
„ „ „ 24 g..	14 5 0 ..	15 5 0	
„ „ „ 26 g..	16 5 0 ..	17 5 0	
Sheets Flat Best Soft Steel, C.R. & C.A. quality—			
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g..	15 10 0 ..	16 10 0	
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.....	16 10 0 ..	17 10 0	
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g..	18 10 0	20 10 0	
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets—			
Ordinary sizes, 6 ft. to 9 ft. to 20 g.....	18 10 0 ..	19 10 0	
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	19 0 0 ..	20 0 0	
Ordinary sizes, 6 ft. to 9 ft. to 26 g.....	22 0 0 ..	23 0 0	
Sheets Galvanised Flat. Best quality—			
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker....	22 0 0 ..	23 0 0	
Best Soft Steel Sheets, 22 g. and 24 g.....	24 0 0 ..	26 0 0	
Best Soft Steel Sheets, 26 g.	25 10 0 ..	26 10 0	
Cut Nails, 3 in. to 6 in...	19 0 0 ..	20 0 0	
(Under 3 in. usual trade extras.)			

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)	£ s. d.
LEAD—Sheet, English, 4 lb. and up.....	47 10 0
Pipe in coils	49 0 0
Soil Pipe.....	51 0 0
Compo Pipe	52 0 0

NOTE—Country delivery, 30s. per ton extra : lots under 3 cwt., 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

Old lead, ex London area, at Mills ..... per ton	32	10	0 —
Do., ex country, carriage forward ..... per ton	33	10	0 —

COPPER.

	s. d.
Seamless Copper tubes (basis)..... per lb.	1 1
Strong sheet..... „	2 3
Thin ..... „	2 4
Copper nails..... „	2 3
Copper wire ..... „	2 4

PLUMBERS' BRASS WORK.
Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62*-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
10/-	12/-	20/-	24/-	31/- per doz.	

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

1½ in.	1½ in.	2 in.	3 in.	
8 lbs. P. traps ..	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps ..	35/-	45/-	66/-	126/- „

TIN—English Ingots, 2/9 per lb. SOLDER—Plumbers' 1/2, Tinmen's 1/5. Blowpipe 1/6 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in pipes	per gallon	0 3 2
„ „ „ in barrels....	„	0 3 4
„ „ „ in drums....	„	0 3 7
Boiled „ „ in barrels....	„	0 3 7
„ „ „ in drums	„	0 3 10
Turpentine in barrels	„	0 5 6
„ in drums (10 gall.)..	„	0 5 8
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		58 15 0

GENUINE WHITE LEAD PAINT—
"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," and other best brands (in 14 lb. tins) not less than 5 cwt. lots .... per ton delivered 77 15 0
Red Lead, Dry (packages extra).. per ton 42 10 0
Best Linseed Oil Putty..... per cwt. 0 15 0
Filocol ..... „ 0 15 6
Size. XD Quality..... fkn. 0 3 6

Continued on next page.

*The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (*contd.*)

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per Ft.		Per Ft.
15 oz. fourths ..	3½d.	32 oz. fourths	8d.
15 „ thirds	4½d.	32 „ thirds	9½d.
21 „ fourths ..	4½d.	Obscured Sheet, 15 oz.	4d.
21 „ thirds	5½d.	„ „ 21 „	5½d.
26 „ fourths ..	5½d.	Fluted 15oz. 6½d., 21oz.	9½d.
26 „ thirds	7½d.	En'lled 15oz. 5½d., 21oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½d.
⅛ Rough rolled	5½d.
¼ Rough rolled	5½d.
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White..	6½d.
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d.

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon. £	s.	d.
Oak Varnish.....	Outside	0	14	0
Fine ditto.....	ditto	0	16	0
Fine Copal	ditto	0	18	0
Pale Copal	ditto	1	0	0
Pale Copal Carriage	ditto	1	4	0
Best ditto.....	ditto	1	12	0
Floor Varnish	Inside	0	18	0
Fine Pale Paper	ditto	0	18	0
Fine Copal Cabinet	ditto	1	2	6
Fine Copal Flatting	ditto	1	0	6
Hard Drying Oak	ditto	0	18	0
Fine Hard Drying Oak.....	ditto	0	19	0
Fine Copal Varnish	ditto	1	0	0
Pale ditto	ditto	1	2	0
Best ditto	ditto	1	12	0
Best Japan Gold Size		0	12	6
Best Black Japan		0	10	6
Oak and Mahogany Stain (water).....		0	12	0
Brunswick Black..		0	7	6
Berlin Black		0	14	6
Knotting (patent)		1	5	0
French and Brush Polish		0	17	0
Liquid Dryers in Terebine		0	9	0
Cuirass Black Enamel		0	7	0

A NEW BRITISH INDUSTRY

An interesting development in the manufacture of concrete was described at a luncheon held on Friday, January 15, at the Savoy Hotel, London, to inaugurate the opening of the Ciment Fondu Works of the Lafarge Aluminous Cement Co., Ltd. It was stated that £130,000 has been expended to date on these new works, which are situated on the banks of the Thames at West Thurrock. All the machinery and plant is of British manufacture, and British labour will be exclusively employed. Ciment Fondu, the product being manufactured, possesses the characteristic of extremely rapid-hardening, so rapid in fact that a concrete road is ready for its full load of traffic 24 hours after the concrete has been laid. Such speed will effect a considerable saving of time and money. Because of the great strength of Ciment Fondu, it will be possible, it is claimed, to erect concrete buildings of a light and graceful type.

The works at West Thurrock, standing on a site of about seven acres, are now completed and in operation. They are designed for an output of 150,000 tons per annum, and plant for an output of 40,000 tons is now in operation. To date £130,000 has been expended on the works, which are electrically driven throughout. A garden village has been designed for the accommodation of the more essential workmen.

An important section of the works is a laboratory, where the quality of the cement is under continual control. Tests and experiments are also freely carried out on behalf of customers. The actual process of manufacture is as follows: Chalk or limestone and bauxite (aluminium ore) are smelted in a form of blast furnace. The material is poured out in a molten state like molten steel. It is cast into pigs, which are subsequently broken up and ground into a fine powder. This cement is then elevated into silos and bagged mechanically in the normal way.

The manufacturers claim that Ciment Fondu is not liable to decomposition by sea-water or sulphur impregnated waters. Piles made with Ciment Fondu have been driven when only 24 hours old. Shuttering and centring can be removed from even suspended floors 24 hours after the placing of the plastic concrete, and these floors can immediately carry their laod.

THE SCOTTISH BUILDER

NEW BUILDINGS IN SCOTLAND

Clydebank.—HOUSES.—The Town Council has agreed that future housing schemes will include steel houses of the "Atholl" type and of the Kane brick-wood design.

Glasgow.—HEADQUARTERS.—The Council of St. Andrew's Ambulance Association propose to build and equip new headquarters.

Airdrie.—HOSPITAL.—The plans of the new infectious diseases hospital have now been approved by the Town Council. The scheme, with the furnishings, is estimated to cost between £26,000 and £27,000.

Galashiels.—HOUSES.—The Town Council has passed plans for the completion of the Wood-street housing scheme by adding two blocks of four houses, and also plans for a third development of houses on the Tweed-road site of six blocks of four houses. Messrs. J. & J. Hall, architects, Ladhope Vale.

Greenock.—HOUSES.—The Corporation has agreed to offer sites to the Scottish National Housing Co. for the erection of 130 steel houses.

Glasgow.—PLANS.—The Dean of Guild Court passed plans: John Caldwell, 22 double villas and garages at Lubnaig-road, Quadrant-road, and Merrylee-road, Newlands; J. C. Lyle, dwelling houses, garages, &c., at Titwood-road; J. Emery & Sons, terraced houses at Kingsford-avenue and New-street, Muirend; J. M. Smith, Ltd., business premises at 57–67, Hope-street, and Cadogan-street; Kinning Park Parish Church, halls at church, West Scotland-street; Langside Hebrew Congregational Church, church at Cromwell-road.

Aberdeen.—BUILDING.—Plans of buildings to cost £160,835 passed by the Plans Committee of the Town Council, included £95,000 for the plan of the Royal Aberdeen Hospital for Sick Children, and £43,000 for the Aberdeen Provincial Training Committee's hostel at Hilton.

Upper Renfrewshire.—HOUSES.—The Scottish Board of Health, has approved of the first stage of the scheme of the District Committee of the Upper Renfrewshire C.C., comprising the following 148 houses:—(*a*) Thornliebank, Summerlea-road, 40 houses; (*b*) Thornliebank, 8 houses Main-street,; (*c*) Busby (first stage), 36 houses; (*d*) Elderslie (first stage), 64 houses.—Applications approved for subsidy for houses erected under the scheme of the District Committee: Lord Weir and Mr. J. G. Weir, the proprietors of Polnoon estate, Eaglesham, for 26 Weir houses to be built on Polnoon estate, East Kilbride-road, Eaglesham.—The District Committee are to build 100 houses at Neilston, and the layout plan has been prepared.

Kirkcaldy.—SCHOOL.—The Dean of Guild Court passed plans, submitted by the Fife E.C., for the erection of a technical school at the corner of St. Brycedale-avenue and Gow-crescent.

Ballinluig.—HALL.—The Duke of Atholl submitted plans at a meeting of the Building Committee and presided at the General Committee connected with the Mid-Atholl Public Hall and Reading Room. Revised plans were submitted, one at a cost of £3,040, including central heating, the other £2,790. The plans were approved.

Edinburgh.—HOUSES.—The Edinburgh Town Council has agreed to the erection of 500 steel houses, to be built through the agency of the Scottish Housing Company. The sites will be at Lochend, Saughton, and Wardie.

Obituary.

The death has occurred of Mr. W. Anderson Cowie, surveyor, son of the late W. A. Cowie, builder and contractor, 84, Polwarth Gardens, Edinburgh.

Newcastle Church Threatened.

Newcastle Corporation has promoted a Parliamentary Bill for powers to carry out street improvements, and the execution of the scheme threatens St. Andrew's Church, Newcastle, with demolition.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons', Bricklayers', Plasterers'.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	—	10½d. to 1/1
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3
Alexandria.....	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3½
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coatbridge.....	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3 to 1/3½
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dumfries	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Dunfermline	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William.....	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½
Inverness	1/5	—	1/5	1/4	1/5	1/5	1/4	1/- to 1/2
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkcaldy	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkwall.....	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/8	1/8	1/8	1/9	1/8	1/8	1/6	1/0 to 1/3
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Motherwell.....	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Perth	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3
Stirling	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Stirlingshire (Eastern District)	1/8-1/10	1/8 1/10	1/8	1/9	1/7	1/8	1/6½	1/3½
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 166.

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	32	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	8	6
¾ inch on flats in two thicknesses	" "	6	3
Angel fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	20	0

SLATER.

		s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails	per square	72	9
Do 20 in. × 10 in. Do. Do.	"	80	9
Do. 24 in. × 12 in. Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors, and partitions	" "	6	0
Do. trusses	" "	8	6

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.

		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		44/6	53/-	60/6
Do. tongued and grooved	"		49/-	57/6	65/-
Do. matchings	"	45/-	51/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.

		s.	d.
One-and-a-half moulded sashes or casements	per foot super.	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.

		1¼"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail: average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roof work	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	61	6
Do. Do. in flats	"	60	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	"	1/8	2/2	2/7	3/10	—	—
Do. soil	"	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	3/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"	—	—	—	14/7	19/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	4
Do. Do. Sirapite	" "	2	7
Do. Do. Keen's	" "	3	7
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	6
Portland cement screed	" "	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	8½
26 oz. Do.	" "	1	0
Obscured sheet	" "	1	1
⅛ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	10½
¼ in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2/- to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 1s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

NEW COMPANIES

THE particulars quoted below have been compiled by Messrs. Jordan & Sons, Ltd., Company Registration Agents, of 116 and 118, Chancery-lane, W.C.2, from the documents available at the Companies' Registry.

FLETTON BRICK SUPPLIES, LTD. (210,457). Registered December 18. 1, St. Margaret's-road, Old Fletton, Peterborough. Brick and tile manufacturers, and dealers, &c. Nominal capital, £2,500.

A. C. NEWMAN, LTD. (210,478). Registered December 19. 4, The Crescent, Minories, E.C. 3. Builders, contractors, &c. Nominal capital, £1,500.

HARDROCK QUARRIES (EDGWORTH), LTD. (210,413). Registered December 16. Edgworth Quarry, Edgworth, near Bolton. Quarry workers, stone merchants, &c. Nominal capital, £7,000.

J. MOORE & CO., LTD. (210,402). Registered December 16. Builders, contractors, &c. Nominal capital, £4,000.

E. MCCREANOR & SONS, LTD. (210,386). Registered December 15. Mitchell-street, Newton Heath, Manchester. Brick makers and saddlers. Nominal capital, £6,000.

RIDEHALGH BROS., LTD. (210,381). Registered December 15. Scholes Park-road, Scarborough. Builders, constructors, &c. Nominal capital, £500.

JAQUES & GREEVES, LTD. (210,604). Registered December 23. Builders, contractors, &c. Nominal capital, £5,000.

G. G. MIDDLETON & SONS, LTD. (210,594). Registered December 23. Builders and general contractors. Nominal capital, £2,000.

A. EARNSHAW & SON (ILKESTON), LTD. (210,676). Registered December 28. Builders and contractors. Nominal capital, £1,000.

A. E. LINDSEY & SON, LTD. (210,655). Registered December 24. Tyndale Works, Upper-street, Islington, N. Joinery and moulding manufacturers and shop front and fittings manufacturer. Nominal capital, £10,000.

HARDMAN ESTATES, LTD. (210,708). Registered December 29. Builders' contractors. Nominal capital, £1,000.

G. C. YOUNG CONSTRUCTIONS, LTD. (210,752). Registered December 30. Joiners, builders, general contractors, &c. Nominal capital, £5,000.

MARBLE DECORATIONS, LTD. (210,810). Registered January 1. 283, Kingsland-road, E.2. Marble, granite and stone merchants, &c. Nominal capital, £1,000.

SCHOFIELD, MORRIS, HULL & CO., LTD. (210,904). Registered January 4. 31, St. Mary's-grove, Chiswick, Middlesex. Builders and contractors.

H. C. HORSWILL, LTD. (210,783). Registered December 31. Builders, contractors and engineers, &c. Nominal capital, £10,000.

AIRD & BALDWIN, LTD. (210,839). Registered January 2. Builders, contractors, &c. Nominal capital, £1,000.

MOODY, GAUNT & THORNE, LTD. (210,812). Registered January 1. 2, Lloyd's Bank-chambers, Ilkley, Yorks. Builders, contractors, joiners, &c. Nominal capital, £2,000.

J. & T. PARKER, LTD. (211,047). Registered January 12. Builders and contractors, &c. Nominal capital, £2,000.

WEBBER, LAWRENCE & CO., LTD. (211,004). Registered January 8. Builders and contractors, &c. Nominal capital, £1,000.

J. W. ILLINGWORTH, LTD. (210,997). Registered January 8. Builders' merchant. Nominal capital, £1,000.

SQUIRES & SONS, LTD. (210,999). Registered January 8. Plumber, builder, electrician, &c. Nominal capital, £5,000.

PROPERTY MAINTENANCE, LTD. (210,989). Registered January 8. 10, Congreve-street, Southwark, S.E.1. Builders and decorators. Nominal capital, £500.

NORTH SOMERSET BRICK AND TILE CO., LTD. (210,987). Registered January 8. Burnt clay, bricks, tiles, pipes, &c. Nominal capital, £10,000.

TENDERS

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.

ALFRETON.—Sixteen houses at Victoria-street, Somercotes, for the U.D.C. :—

H. Knowlson & Son, Marehay	£10,240 8
G. Shipman, Alfreton	9,475 0
Evans Bros. & Co., Alfreton	8,700 0
J. Randall, Alfreton	8,548 0
J. J. Smith, Alfreton	8,288 0
Bowker & Kirkland, Heage	7,760 0
Stead & Watson, Alfreton	7,980 0
G. Brentnall, Alfreton	7,720 0
J. Payne, Crich	7,714 0
W. Wood, Heanor	7,440 0
*Harris Bros., Marehay	7,100 0

ARMAGH.—Six houses in Navan-street, for the U.D.C. :—
‡P. M'Kenna & Sons, Armagh £2,637

BELFAST.—New Grosvenor Hall, the headquarters of the Central Mission of the Methodist Church in Belfast :—
*McLaughlin & Harvey £46,000

BIRKENHEAD.—Cleaning, painting and decorating of the two magistrates' courts and the sessions court, in the Sessions Court buildings, for the C.B. :—
‡Mersey Painting & Plumbing Co., of Birkenhead £347

BLACKROCK.—Eight houses at Booterstown, for the U.D.C. :—
*Allen Bros., Dublin £2,488

BRIXHAM.—Public convenience, for the U.D.C. Mr. Joseph W. Smith, surveyor and engineer; quantities by the surveyor :—

Evans & Smith	£607 8 0
E. C. Perrett	495 10 0
Stockman Bros.	457 17 6
H. Potter	438 19 10
K. R. Hazlewood	437 0 0
*C. Upham	409 1 6

(All of Brixham.)

BURTON-UPON-TRENT.—Ninety-four houses on the High Bank-road site, Winshill, for the Corporation. Mr. G. S. Lynam, Borough Surveyor and Engineer :—

*T. Lowe & Sons, Ltd. (52 houses)	£28,860 0
*G. H. Adams (16 houses)	8,671 9
*J. Lomas (26 houses)	14,328 0

(All of Burton-upon-Trent.)

CARLISLE.—Carrying out of Roughton Gill water supply scheme, for the R.D.C. :—
*D. Thompson & Son, Carlisle £69,000

CHESTER-LE-STREET.—Two additional wards at the Isolation Hospital, for the Joint Hospital Committee :—
*C. Groves & Co., Chester-le-Street £11,184 7 6

CHIGWELL.—House at Manor-road, for Mr. F. Hacker, Ilford. Mr. W. J. Lewis, architect, Ilford; quantities by the architect :—
*Noble Bros., Chigwell £2,558

COWES (I. of W.).—Re-setting the retorts at the Gasworks, for the U.D.C. :—
*Drakes, Ltd., Halifax £536

CREWE.—Twenty-eight houses on the Alton-street site, for the T.C. Mr. E. G. Timbrell, Architect :—
*T. Smith & Sons, Crewe £15,334 2 8

DEWSBURY.—Bungalow, for the C.B. :—

Mason's work: ‡E. Kirby, Dewsbury	£397 12 2
Joiner's work: ‡J. Brook & Sons, Dewsbury	115 0 0

DEWSBURY.—Construction of sludge pump house, suction pit, chemical mixing and workmen's rooms, rising mains, &c., at Mitchell Laithes, for the C.B. :—
‡Samuel Johnson & Son (Mirfield), Ltd. £20,688 10

DUBLIN.—Repairs to cottage in farmyard, Crooksling Sanatorium, for the C.B. :—
L. & J. Duff, Dublin £211 19

DUMFRIES.—Twenty-eight houses at Clerkhill for the T.C. Mr. J. Barker, Burgh Surveyor, architect :—
Three Blocks of three-apartment houses, four houses per block—

Builder—	
‡R. Baxter & Son	£1,967 5 0
Joiner—	
‡Lockerbie & Waugh	1,071 0 0
Plumber—	
‡P. & P. Meechan	492 12 7½
Plasterer—	
‡Wm. McNish	480 0 0
Slater—	
‡John McLauchlan	307 11 6
Painter—	
‡Wm. Haining & Son	137 5 0

Four Blocks of two-apartment houses, four houses per block—

Builder—	
‡R. Baxter & Son	£2,458 0 0
Joiner—	
‡John Kirkpatrick	1,249 10 0
Plumber—	
‡Jas. Dickson & Son	688 0 0
Plasterer—	
‡J. Hannay & Son	517 0 0
Slater—	
‡John McLauchlan	359 2 0
Painter—	
‡Edgar R. Bell	159 0 0

DUNDALK.—Harbour workshop, for the Harbour Board :—

Denis Ryan	£396 10
B. Duffy	345 0
*V. McDonald & Sons	345 0

FOLKESTONE.—Cricket pavilion at the Sports Ground, Cheriton-road, for the Corporation. Mr. A. E. Nicholls, Borough Engineer :—
*C. Jenner & Son, Folkestone £6,800

HARROGATE.—Thirty "A" type (non-parlour) houses on the Crab-lane and Bilton-lane estate, for the T.C. Borough Engineer :—

Excavator, mason and bricklayer—	
‡Kershaw & Hill	£6,491 16 3
Carpenter and joiner—	
‡Wardman & Forrest	3,396 10 2
Plumber and glazier—	
‡Higginbotham & Sons, Bradford	2,040 7 1
Plasterer—	
‡W. Laycock & Sons	996 0 0
Slater—	
‡Dawber, Townsley & Co., Darlington	958 0 0
Painter—	
‡Sewell Bros., Knaresborough	474 19 9
Fencing—	
‡J. W. Taylor	273 0 0

HEMEL HEMPSTEAD.—Twelve houses at Handpost Farm site, for the Corporation. Mr. A. Murray-Smith, Borough Surveyor :—

Lovel & Sons, Beaconsfield	£7,550
W. E. Ellis, Watford	6,480
Kempster & Williams, Watford	6,460
*Lacey & Sons, Luton	5,825

HOLBEACH.—Pairs of cottages on various sites, for the U.D.C. :—

	Per pair.
One pair—	
*W. R. O. Judge, Wisbech	£762 0
One pair—	
*Baker & Noble, Holbeach	715 0
Three pairs—	
*G. W. Allard, Holbeach	875 15
One pair—	
*J. K. Banham, Holbeach	895 0
Two pairs—	
*J. Parsons, Holbeach Bank	905 10

IRELAND.—Tenders accepted by the Commissioners of Public Works, for the month of December :—
Adrigole Garda Siochana Station, co. Cork (erection of station): R. Kelly, Barrack-street, Bantry.
Balla Garda Siochana Station, co. Mayo (erection of station): M. Hosty, Ballinrobe, co. Mayo.
Ballylooby Garda Siochana Station, co. Tipperary (erection of station): D. Fox, Flemingstown, Clogheen, co. Tipperary.
Ballinrobe Military Barracks, co. Mayo (restoration for the Garda Siochana): M. Hosty, Ballinrobe, co. Mayo.
Goresbridge Garda Siochana Station, co. Kilkeeny (erection of station): Murphy Brothers, Bagenalstown, co. Carlow.
Kerrykeel Garda Siochana Station, co. Donegal (erection of station): John McLafferty, Ardbane, Downings, co. Donegal.
Lough George Garda Siochana, co. Galway (erection of station): J. Stewart, Lower Salthill, Galway.
Nobber Garda Siochana, Station, co. Meath (erection of station): William & Luke Madden, Creewoods, Slane, co. Meath.
Tipperary Garda Siochana Station, co. Tipperary (erection of station): Barry & Cavanagh, Ltd., Tipperary.
Four Courts, Dublin (roofing East and West Pavilions): J. & P. Good, Ltd., Dublin.
Feale View National School, co. Kerry (erection of an extension): Patrick Holly & Son, Tarbert, co. Kerry.
General Post Office, Dublin (reconstruction of Central Section, Block "C"): A. Hull & Co., Ltd., Ringsend, Dublin.
Leenane National School, co. Galway (erection and furnishing): M. Hosty, Ballinrobe, co. Mayo.
Howth Coastguard Station (restoration and adaptation): J. McCreadie, Malahide, co. Dublin.

KIVETON PARK.—Conversion of pail closets into water closets, for the R.D.C. Mr. F. Thackray, Surveyor :—

J. Allison, Worksop	£670 15 3
J. Callaghan, Worksop	717 11 6
A. E. Lee, Sheffield	1,028 0 0
J. Newman & Son, Sheffield	1,127 14 0
Oliver Bros., Sheffield	983 18 1
A. Joynes, Sheffield	1,115 12 4
*T. J. Green & Co., Worksop	665 14 7

LEIGH-ON-SEA.—Vicarage at St. Margaret's Church. Mr. P. R. Fincher, M.S.A. architect; quantities by Mr. W. J. Lewis, Ilford :—
*F. G. Green & Sons.

LONDON.—Tenders accepted by H.M. War Office, for December :—
Building Works and Services: Colchester, Reed Hall (improvements to single officers' quarters): W. Chambers & Son, Colchester. Chelsea Barracks (latrine blocks): T. W. Heath, Ltd., London, S.W. Norwich Cavalry Barracks (provide night urinals): F. R. Hipperson, Norwich. Larkhill Camp, Married Quarters (Atholl steel type): The Housing Corporation of Great Britain, Ltd., London. Longmoor (block of married soldiers' quarters): Kemp, George Stroud & Co., Ltd., Aldershot. Crownhill, Plymouth (single officers' quarters): G. Shellabear & Son, Plymouth.
Painting: Woolwich Manufacturing District: G. Greenwood & Sons, Ltd., London, S.W.
Installations: Caterham Barracks (of electric lighting): Alpha Manufacturing & Electrical Co., Ltd., London, S.W.

LONDON.—Cleaning and/or painting of schools, for the L.C.C. :—

L.C.C. Beaufoy Institute (Lambeth, N.)—			
J. L. Catterall & Sons, Ltd.....	£607	3	0
Brewhouse-lane (Whitechapel and St. George's)—			
Vigor & Co. (Poplar), Ltd.....	587	10	0
Brockley central (Deptford)—			
Nox, Ltd.	685	0	0
Carlyle school (Chelsea)—			
J. Thompson & Sons.....	509	18	0
L. C.C.Central School of Arts and Crafts and London day training college (Holborn)—			
F. Foxley & Co., Ltd.....	847	0	0
County secondary, Kentish Town (St. Pancras, N.)—			
F. Prater & Son.....	305	0	0
L.C.C. Hammersmith School of Arts and Crafts (Hammersmith, N.)—			
B. Colley & Sons, Ltd.....	888	7	8
Gisburne House, Watford—			
Payne Bros.	458	0	0
Hay Currie (Poplar, S.)—			
A. H. Inns, Ltd.	342	0	0
Holland-street (P.D.) (Kennington)—			
J. L. Catterall & Sons, Ltd.....	308	10	4
Hugon-road (Fulham, E.)—			
Sims & Russell	475	0	0
Islington day continuation (Islington, S.)—			
Marchant Hirst & Co.	833	0	0
Medburn (St. Pancras, S.E.)—			
Stevens & Sons	757	0	0
Netherwood-street (Hampstead)—			
J. D. Hobson, Ltd.....	515	10	0
L.C.C. Norwood technical institute (Norwood)—			
J. & C. Bowyer, Ltd.	838	0	0
L. C.C.School of Photo-Engraving and Lithography (City of London)—			
F. Prater & Son	224	0	0
Portslade L.C.C. school, Brighton—			
Saunder's	784	0	0
Pritchards-road (Bethnal Green, N.E.)—			
W. J. Clemens	280	0	0
Redvers-street (Shoreditch)—			
G. Barker	469	0	0
Saffron-hill (Holborn)—			
T. Carr	524	10	0
St. Marylebone day continuation (St. Marylebone)—			
Burdett & Son	707	0	0
Saunders-road (Hammersmith, N.)—			
A. & F. Polden, Ltd.....	360	0	0
Scrutton-street (Shoreditch)—			
Vigor & Co. (Poplar), Ltd.....	889	0	0
L.C.C. Shoreditch technical institute (Shoreditch)—			
F. Prater & Son	142	0	0
Southwark-park (Rotherhithe)—			
C. & R. Harding	727	7	0
Stowey House (Clapham)—			
R. Gibson	600	0	0
Townmead-road (Fulham, E.)—			
Bevis & Sons	397	11	3
L.C.C. Trade school for girls, Bloomsbury (Holborn)—			
Cole, Loasby & Co., Ltd.	569	7	0
Trundley's-road (Deptford)—			
W. Bailey & Sons (Builders), Ltd.	399	0	0
Vicarage-road (Woolwich, E.)—			
D. C. Bowyer	449	17	2
Westminster day continuation (Abbey, Westminster)—			
J. L. Catterall & Sons, Ltd.....	898	0	0
White Lion-street (Finsbury)—			
W. T. Lawrence	287	16	0
Woolmore-street (Poplar, S.)—			
R. Woollaston & Co.	972	0	0
Dockhead R.C. (Bermondsey, W.)—			
F. J. Jones	507	0	0
St. Anne's (Abbey, Westminster)—			
S. Linton	440	0	0
St. John's C.E. (Bethnal Green, N.E.)—			
W. Knight	445	0	0
St. Joseph's R.C. (Greenwich)—			
W. Mills & Sons	372	10	0
St. Luke's (Poplar, S.)—			
W. Simons.....	456	0	0
St. Mark's C.E. (Whitechapel and St. George's)—			
W. Knight	640	0	0
St. Mary Abbott's (Kensington, S.)—			
F. Brown, Ltd.	445	0	0
St. Michael and All Angels' (Woolwich, W.)—			
Stewart & Sons	530	0	0
St. Paul's C.E. (Hammersmith, S.)—			
T. Mills & Son	347	0	0
St. Thomas' C.E. (Islington, W.)—			
B. Alfatt & Son	525	0	0

LONDON.—Repairs to eight houses, Loanda-street, for the Shoreditch B.C. :—

W. Thomerson & Son.....	£227	7	6
A. & T. Wilson	219	0	0
T. Brevetor, Ltd.....	206	19	6
R. Maskall & Sons	203	0	0
‡A. W. Martin	180	15	0

(All of London.)

LONDON.—Two electricity sub-stations in Gainsborough-road and Holly-street, respectively, for the Hackney B.C. Borough Electrical Engineer, 18–24, Lower Clapton-road, E.5 :—

W. C. Thomerson	£21,866
Henry Newell	19,669
F. & G. Foster	19,543
C. P. Roberts & Co., Ltd.	19,236
Wm. Shurmur & Sons, Ltd.....	19,222
Vigor & Co. (Poplar), Ltd.	19,162
*J. Jarvis & Sons, Ltd.....	18,492

(All of London.)

LONDON.—Rebuilding of a portion of the wall on the southern boundary of the Tyndale-place housing site, for the Islington B.C. :

A. C. Mackinlay	£435
J. Johnson	363
W. Bolt.....	350
*G. Bollom & Sons, Ltd.....	297
S. A. Shillitoe	295

(All of London.)

LONDON.—Improvements or extension of the heating apparatus of the undermentioned schools, for the L.C.C. :—

Cobourg-road (Camberwell, N.)—			
Sims & Russell	£429	0	0
Holden-street (Battersea, S.)—			
Barrett & Wright, Ltd.	484	0	0
Middle-row (Kensington, N.)—			
J. Biggs	116	0	0
St. Martin's School of Art (Abbey, Westminster)—			
Palowkar & Sons	363	0	0
The Medburn (St. Pancras, S.E.)—			
W. T. Lawrence	125	15	0
Old Palace (Bow and Bromley)—			
J. Combie & Son, Ltd.	697	0	0
Sigdon-road (Hackney, C.)—			
Clark, Hunt & Co., Ltd.	137	0	0
Wickham-lane (Woolwich, E.)—			
J. & C. Bowyer, Ltd.	647	0	0
Wix's-lane (Battersea, S.)—			
Sims & Russell	449	0	0

LONDON.—Minor works, at various schools, for the L.C.C. :—

The Burghley (St. Pancras, N.)—			
Practical workrooms, J. C. Mather	£233	0	0
Catherine-street (Shoreditch)—			
Head teacher's room, J. C. Mather	145	0	0
Compton-street (Finsbury)—			
Three rooms for head teachers, J. C. Mather	492	0	0
East-lane (Rotherhithe)—			
Head teacher's room and stock room, Castle Bros., Ltd...	195	0	0
Ecclesbourne-road (Islington, E.)—			
Additional sanitary accommodation, C. P. Roberts & Co.. .	890	0	0
Haverstock-hill (St. Pancras, S.W.)—			
School-keeper's house, J. C. Mather	875	0	0
Herold's institute (Rotherhithe)—			
Minor repairs and painting, E. C. Saines & Co.	240	8	3
Homerton residential school for deaf children, Penn, Bucks—			
Minor alterations to playroom, F. & A. Froude	246	11	8
Huntingfield-road (Putney)—			
Handicraft and science room, T. Brown & Son	984	0	0
Lawn-lane (Kennington)—			
Room for head teacher, A. V. Good	132	10	0
Myrdle-street (Mile End)—			
Head Teachers' rooms and stock-rooms, G. B. Farrar & Co...	102	0	0
North Hackney Central and Millfields-road (Hackney, N.)—			
Room for head teacher and removal of stepping, J. C. Mather	179	0	0
Oldfield-road Central (Stoke Newington)—			
Remodelling of offices, Bostels, Ltd.	550	0	0
Pope-street (Woolwich, W.)—			
Head teachers' rooms, A. V. Good	195	0	0
Rhyl-street (St. Pancras, N.)—			
Additional office accommodation, C. H. Boyd & Son, Ltd. ..	432	0	0
Sussex-road (Norwood)—			
Head teacher's room, Triggs & Co.	283	0	0
Tollington-park central (Islington, N.)—			
Rooms for head teacher and bicycle shed, Stevens & Sons	412	0	0
Tooting Graveney (Balham and Tooting)—			
Minor structural alterations, T. Brown & Son	380	0	0
Trundley's-road (Deptford)—			
Head teachers' rooms, The Economic Building Co.	126	0	0

LONDON.—Tenders accepted by H.M. Office of Works, for December :—

Building Works: Canterbury Telephone Repeater Station—Erection: G. Browning, Canterbury. Croydone Telephone Exchange—Grano. Work: F. Bradford & Co., London, E. Custom House, E.C.—Pointing, Brickwork, &c.: Dalton & Sons, Ltd., London, E.C. Edinburgh, Holyrood Palace—Panelling: Nathaniel Grieve, Edinburgh. Grimsby Head P.O.—Alteration: E. E. Dale & Sons, Ltd., Cleethorpes. Halesworth Telephone Repeater Station—Erection: Wm. C. Reade, Aldeburgh. Hampton Court—Landing Stage: G. Tate & Son, London, S.E. Harrow, H.M. Stationery Office—Roads and Drains: G. Percy Trentham, Ltd., London, W.C. Holmpton, Yorks—Erection of Coastguard Cottages: Hy. Ashton, Barton-on-Humber. Kew Gardens Branch P.O.—Roofing: Engert & Rolfe, Ltd., London, E.; Slater: E. Parkinson (London), Ltd., London, N.; Steelwork: Lindsays Paddington Iron Works, Ltd., London, W. Keyham Employment Exchange—Extension: A. N. Coles & Sons, Ltd., Plymouth. Manchester—Erection of "City" Telephone Exchange: J. Gerrard & Sons, Ltd., Manchester. Marks Tey Telephone Repeater Station—Erector: F. Hutton & Co., Birch. Montagu House, S.W.—Glazier: George Farmiloe & Sons, Ltd., London, E.C.; Grano. Work: Malcolm McLeod & Co., Ltd., London, E.C.; Iron Drains, &c.: W. H. Gascoigne & Co., London, W.; Joiner: Metropolitan Joinery Co., Ltd., London, S.W.; Plasterer: George Fletcher, London, W.; Roofing: Permanite, Ltd., London, E.; Slater: William Smith & Evans, London, S.E.; Zinc Work: Lichtwitz, Dunne & Co., London, W. Paisley Employment Exchange—Masonry, &c.: J. Porter & Sons, Ltd., Glasgow; Plasterer: J. & H. Williamson, Glasgow; Plumber: Steel & Wilson, Glasgow; Steelwork: Clyde Structural Iron Co., London, E.C. Pontypool P.O.—Alteration: J. H. Williams, Newport, Mon. Portslade Telephone Exchange—Erection: W. R. Andrews & Co., Peacehaven. Preston P.O., &c.—Alterations: Wm. Bowers & Co. Hereford. South Kensington, Imperial Institute—Music Room: Holloway Bros. (London), Ltd., London, S.W. South Kensington, Science Museum—Grano. Work: F. Bradford & Co., London, E.; Plasterer: A. Marton, London, E.C. "Strand" Telephone Exchange, W.C.—Grano. Work: Malcolm McLeod & Co., Ltd., London, E.C.; Joiner: Rippers, Ltd., Castle Hedingham; Plasterer: J. Jenner, London, W. Walton-on-Thames P.O., &c.—Alterations: Halliford, Ltd., Teddington. Wandsworth Branch P.O.—Asphalter: Limmer & Trinidad Lake Asphalte Co., Ltd., London, S.W.

Engineering Services: Burnley Telephone Exchange—Heating: The Brightside Foundry & Engineering Co., Ltd., Liverpool. Preston District Telephone Manager's Office—Heating: T. Blackburn & Sons, Ltd., Preston.

Painting: Bovis, Ltd., London, W.; A. Hutton & Son, Edinburgh; W. & T. Scott, Leith.

LURGAN.—New roof, plastering, &c., at Lurgan R.C. Church, Virginia, co. Cavan, for the Rev. B. Gaffney :—

M. McPartland, Cavan	£3,246
D. Cole, Newry	2,414
T. Corrigan, Virginia	2,287
T. McManus, Cavan	2,235
John J. D'Arcy, Clonmellon	2,142
F. Delaney, au Ualmh, co. Meath.....	2,093
*Michael Reynolds, Mohill	1,899

LUTON.—Five pairs of houses at Barton-in-the-Cley. Mr. H. Pickering, Surveyor, 73, West Parade, Dunstable :—

A. & E. Fensom, Leagrave	£4,362
B. W. Wood, Dunstable.....	4,300
F. W. Janes, Ltd., Luton	4,280
*H. Lacey & Sons, Luton	4,180

MANSFIELD.—Ninety cottages, for the T.C. Mr. W. Thompson, Borough Engineer, Market-street :—

H. E. Whitehead, Mansfield	£33,246
Niblett & Barnes, Nottingham ..	32,901
A. R. Roe, Mansfield.....	32,227
Bodill & Son, Ltd., Hucknall	31,441
F. Perks & Son, Ltd., Long Eaton:.	31,410
*R. Moore, Mansfield	29,307
C. C. Stafford, Mansfield	28,539

MILFORD.—County Sanatorium, for the Surrey C.C. :—

*Chapman Lowry & Puttick, Ltd., Haslemere	£166,270

OLDHAM.—Works at Ward-street School, for the E.C. :—

Heating—*Giles, Shaw & Co.
Tiling—*J. Burley.
Electric Lighting—*Starkie & Sparkes.

OLDHAM.—Heating installation at Central Fire Station, for the T.C. :—

*W. F. Spencer, Ltd.

PONTEFRACT.—Cinema in Ropergate. Messrs. Hustler & Taylor, architects and surveyors; quantities by the architects :—

H. Robshaw, Castleford	£15,821 12 2
Swift Bros., & Haslam, Doncaster.....	15,744 6 0
Barber & Heseltine, Pontefract	15,716 5 0
Wm. Horner, Pontefract.....	15,618 6 2
Wm. Birch & Sons, York.....	15,532 17 2
Wm. Bagnall, Wakefield.....	15,000 0 0
*H. Taylor, Pontefract	14,647 11 5

PRESTATYN.—Extensions at the gasworks, for the D.C. :—

*R. J. Dempster & Sons, Ltd., Huddersfield.....	£11,184

REDHILL.—Mission Hall, with cloak-room, &c., for the Church Authorities :—

*Newton Green & Co., Redhill.

ROTHERHAM.—New court-house at Moorgate, for the West Riding C.C. :—

*W. H. Treehern, Ltd., Rotherham .. £25,408

ST. AUSTELL.—Rebuilding "Seven Stars" Hotel, for Messrs. W. Hicks & Co., Ltd. Mr. L. Winn, L.R.I.B.A., architect and engineer, Truro :—

*Hart & Sons, Redruth.

SCARBOROUGH.—Twenty-four tenements on the Edgehill Park estate, for the Corporation :—

*W. E. Clark £10,200

SHOREHAM-BY-SEA.—Eight cottages, for the U.D.C. :—

‡G. Still £4,000

SMALLBURGH.—Pair of houses at Paston, for the R.D.C. :—

Mr. Randell	£750
Mr. Mace	740
Mr. Hicks	698
Mr. Gray	695

SOUTH SHIELDS.—Construction of abutments of Don Bridge, for the T.C. (in place of withdrawn tender) :—

*Gustavus Bailey, Ltd., South Shields £14,747 19 10

SUNDERLAND.—New Bede Collegiate Boys' and Girls' Secondary School, on the Barnes estate, for the E.C. :—

*Henderson Bros., South Shields £94,051 19 8

TANFIELD (Co. DURHAM).—Forty-five houses at Crookgate, Burnopfield, for the U.D.C. :—

*Wm. F. Rendle, Stanley.

TAVISTOCK.—Four houses on a site adjoining Callington-road, for the U.D.C. Mr. F. Camble, Surveyor :—

J. R. Richards & Son—	
Type A	£2,440
„ B	2,568
*C. Doidge, Blackdown, Mary Tavy—	
Type A	2,246
„ B	2,468

(Subject to M.H. approval.)

TIVERTON.—Houses at Council-gardens, for the T.C. :—

W. Nott, Bampton (for 12)	£5,939	0
*J. Grater & Sons, Tiverton (for 12)	4,739	0
*L. Greenslade, Tiverton (per house)	537	0
*Bamsey & Marshall, Tiverton (for six houses)	2,235	10

WELWYN.—School for 400 scholars at Welwyn Garden City, for the Hertfordshire E.C. County Architect, Welwyn Garden City :.

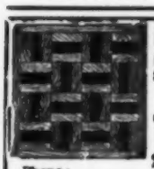
J. Jarvis & Sons, Ltd., London	£19,457	0
G. Wallis & Sons, Ltd., London	19,106	0
J. A. Hunt, Ltd., Hoddesdon	18,759	0
C. Miskin & Sons, Ltd., St. Albans	18,157	0
F. Palmer, Welwyn Garden City	16,951	7
Welwyn Builders, Ltd., Welwyn Garden City	15,385	0

WEYMOUTH.—Electric wiring the housing scheme No. 4, at Westham, for the T.C. :—

‡B. P. Darch £280

WHICKHAM.—Seventy houses, for the U.D.C. :—

*Wm. Hill & Co., Ltd., Gateshead .. £30,766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